

Quarantine in the British West Indies
and
The Small-pox Controversy of 1902-04.

With an Appendix.

QUARANTINE IN THE ^{British} WEST INDIES.

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By adopting the recommendations of the West Indian Inter-colonial Sanitary Convention of 1904, recently held at Barbadoes, the British colonies in these parts have at one leap emerged, in the matter of dealing with infected ships, from practices not altogether unlike those prescribed by the Venetians of the 14th century to a modern system of marine sanitation based upon the present day knowledge of the causation and mode of spread of infectious disease. It was certainly fitting that this change should have taken place at a time when the epidemiology of our tropical colonies is receiving special attention, and when excellent work is being done, under the aegis of the Colonial Office, by the Commissioners of the London and Liverpool schools of Tropical Medicine, towards improving the public health of the more notoriously insalubrious portions of the Empire, thereby facilitating the development of commercial resources hitherto exploited with difficulty on account of the prevalence in those regions of strange and fatal diseases, the nature and origin of which, though now becoming apparent as a result of untiring research, have been, unfortunately, but little understood in the past. This removal of the barrier of Quarantine from the path of free inter-colonial trade, in times of epidemic disease, and the substitution for it of the more rational methods of dealing with infected ships now agreed upon, is remarkable as being one of the most striking instances yet afforded of the application of modern sanitary science to the principles of the

new Imperial idea, the mainspring of which, as I understand it, is to foster closer and freer commercial relationships, not only between the Mother Country and the rest of the Empire, but between the various colonies themselves. It was also fitting that the Delegates to that Convention should have been guided in their deliberations by a medical expert from the Local Government Board of England, specially commissioned to do so after visiting the different islands, and making himself personally acquainted with local conditions affecting the Public Health. The appointment of this Imperial officer ^{indeed} may be taken as something in the nature of an atonement on the part of Downing street for having allowed to enure, during a period of forty years after its disuse in the United Kingdom, a mischievous practice introduced in this Colony ~~by~~ by an Order in Council dated 10th November 1818, which "proclaimed and declared that the same Regulations, Provisions, Pains, Penalties and Forfeitures for the due performance of quarantine shall be held to be in force within this island, its Ports, Harbours, Maritime Jurisdiction, and its Dependencies, as are now in force in Great Britain, in virtue of several Acts of Parliament of the United Kingdom, and of the Order of His Majesty in Council".

The immediate reason for the promulgation of this Order as recited in the Proclamation issued at the time was as follows:- "Whereas information has been obtained that the smallpox prevails in the neighbouring Provinces of Spanish America, and it becomes necessary

for the preservation off the Public Health to provide "against the contagion thereof in this island, either "from the vessels that now have arrived or hereafter may "arrive at this port, either from the said Provinces or "elsewhere wheresoever". Information is wanting as to whether the quarantine regulations successfully fulfilled their object on that occasion; certainly they failed to do so a year ago when, as a result of infection from Venezuela, Trinidad was the scene of an out-break of smallpox in which upwards of four thousand cases were recorded.

Whilst quarantine was introduced here nearly a century ago with the object of warding off smallpox infection from Venezuèla, it is curious to observe that its abolition this year resulted from intolerable evils in the system demonstrated beyond all doubt in the course of its application during another epidemic of the self-same disease, imported, as chance would have it, from the self-same Provinces of Spanish America. The history of quarantine in Trinidad is similar in many respects to that recorded in England. The weak points of the system mainfested themselves on almost every occasion that an opportunity arose to enforce it, with the result that a large number of amending ordinances had to be successively introduced, each one merely serving as a make-shift until the next epidemic when further shortcomings were revealed, and the necessity for fresh legislation felt and supplied. The first change of that

kind took place in 1832 when the Order of 1813 was repealed and replaced by "An Ordinance for Altering and Amending the law relating to the performance of Quarantine". The object of this enactment was the better to provide against importing the contagion of "Spasmodic Cholera" which then prevailed nearly all over Europe. *Spasmodic*

It was a wholesale adoption of an English statute of 1825 (6 Geo.IV.c.78) entitled "An Act to repeal the several laws relating to the performance of Quarantine, and to make other provisions in lieu thereof". According to its terms, all vessels coming from, or having touched at any place from whence the Privy Council declared it probable that the plague or other infectious disease or distemper, highly dangerous to the health of His Majesty's subjects, might be brought, and all all persons, goods, wares and merchandize, packets, packages, baggage, ^awatering apparel, books, letters or other articles on board such vessels, were declared liable to quarantine, and on arrival at any port or place in the United Kingdom might be obliged to perform quarantine in such place or places, for such time, and in such manner as should from time to time be directed by Order in Council notified by Proclamation or published in the London Gazette. It is a matter of interest that before the passing of this Act, plague was the only disease against which quarantine was imposed in the United Kingdom, and while the long immunity with which the shores of Britain were blest from this scourge had, in a measure, diminished the popular terror associated with

Spasmodic is the term used in the ordinance.
I also have before me a copy of the report (dated
Sept^r 14th 1832) of a Committee appointed by the "United
Medical Society" to investigate the disease called
Spasmodic Cholera.

Copland, (Dict. Med. Londn, 1858, Vol 1 pp 319 et seq.)
classifies Cholera Morbus into (1) Cholera Biliosa;
(2) Cholera Flatulenta, (3) Cholera Spasmodica,
the last named being defined as Spasmodic
Cholera. Mort de Chien, Fr. — Sporadic and endemic
Spasmodic Cholera.

with it, yet ^{with} ~~in~~ the westward spread of commerce, and improvements in the rapidity of ocean transit, the risk of importing hitherto unknown diseases from the colonies to the Mother Country had to be reckoned with, and a clause was introduced in the new Act making Yellow Fever and "other highly infectious disorders" quarantinable diseases in addition to plague.

Six years later, in 1831, and shortly before the adoption of the 1825 Act in Trinidad, Cholera was included in the list. It had invaded the whole of Europe from the East, and in England, as elsewhere on the continent, quarantine precautions were strictly enforced. But the general experience was the same as in Trinidad, and the preventive measures however rigid or severe failed, and failed repeatedly, as they were bound to do when their success depended upon the perfect efficiency of a cumbrous machinery, the slightest fault in the operation of which entailed not only the possibility but also a very reasonable probability of shore infection. This was an object lesson which was not lost on the English people who are nothing, if not practical. They saw the folly of attempting to stave off foreign infection by futile attempts to seal their ports and they wisely refrained from doing so during the succeeding Cholera epidemics of 1849, 1853 and 1865.

Indeed even the old dreaded enemy, plague, came to be looked upon as a contagion that could be met ~~with~~ and dealt with in a more confident and practical fashion than had hitherto been the case, so much so, that

that in 1847 the ban which had been imposed on the Levantine traffic, for more than a hundred years previously, was removed by a stroke of the pen, and ships coming from the epidemic seats of the plague in the ~~the~~ near East with clean bills of health were no longer required, before leaving the Mediterranean, to call at Venice, Genoa, Marseilles or other recognized stations to undergo their preliminary quarantine. Such vessels were under the new arrangements, admitted to free pratique, provided that no case of plague had occurred on board during the voyage. This was one of the last nails in the coffin of the old system, for thereafter the British Lazarettos began to fall into disuse, and when the Cholera broke out in 1849, the English General Board of Health declared against quarantine, and the regulations were not enforced either during that epidemic or in the subsequent one of 1853. By this time the nature of the quarantinable diseases had begun to be better understood, and the more rational methods of disinfection with chemical agents, isolation of the sick, and other measures which later on culminated in what are now known as the "Cholera regulations" were employed to prevent the introduction of infection from abroad. Although the good practical results obtained with the new measures against plague and cholera had inculcated a certain amount of contempt in the minds of the English people for the old system, it is curious to note that on the advent of a less familiar enemy in the shape of Yellow fever, coming from America with a terrible reputation

reputation for evil, they felt diffident in holding their ground, and for the last time they retreated from the advanced position they had taken up in ^{these} ~~this~~ matters. In fact the quarantine laws were enforced for a short time in September, 1865, at Swansea, on the occasion of a limited out-break of Yellow fever introduced by an old wooden brig ~~hailing~~ from Santiago de Cuba. The disease was confined to the immediate neighbourhood of the ship's berth, and ceased after the death of some fifteen members of the crew. Since then the practice of quarantine, such as it was at that time, fell into abeyance, and every subsequent amendment of the various Acts which still remained on the Statute book was rather in the ⁱ ~~d~~irection of enlarging the powers of the local authorities, with a view to enabling them to deal specifically with each case coming under their notice, than of encouraging the principle of treating alike all ships technically or otherwise infected, under the old hide-bound system of a rigid quarantine for a fixed period, without any reference to the actual necessities of the particular case in point. Thus we find that in 1866, the ^u ~~q~~uarantine Act of 1825 was extended so as to give the local authorities power to deal with every vessel having on board any persons affected with a dangerous or infectious disorder, whether the ship hailed from abroad or not. Provision was also made for obliging masters of vessels to give notice when they had infection on board, and for enabling the Customs' officers to inquire into all suspected cases. Following this,

several

several minor acts ~~f~~ giving further powers were passed until 1875 when they were repealed and codified by the Public Health Act of that year. By section 130 of this Act, power was given to the Local Government Board from time to time to make, alter, and revoke regulations with a view to the treatment of persons affected with Cholera, or other epidemic, endemic ~~of~~ infectious disease, and to prevent the spread of such disease, as well on the seas, rivers and waters of the United Kingdom, and on the high seas within three miles of its coasts, as on land.

Section 134 further provided that whenever any part of England appeared to be threatened with, or was affected by ~~any~~ disease as described above, the Board could make special regulations for guarding against the spread of the same, and also, by order, declare all or any of the regulations so made to be in force within the whole or any part of the district of the Sanitary Authority, and to apply to any vessels whether on inland waters, or on arms or parts of the sea within the jurisdiction of the Lord High-Admiral, for such period as they deemed fit. Section 136 made it obligatory for the Sanitary Authority of the district in which regulations were declared to be in force, to superintend and see to the execution of the same, and by the section next in order, power of entry on any vessel for the purposes of the Act was given to them and their officers. In the following year, 1876, the Customs' Laws Consolidation Act (39 & 40 Vict.c.36.s.234) was passed further

empowering

empowering the Privy Council, by Order, to require that no person coming from or having touched at any place abroad where they had reason to believe that Yellow fever or other highly infectious distemper prevailed, should quit the vessel before the state of the health of the person on board should have ~~h~~ been ascertained on examination by the proper officer appointed for the purpose by the Commissioners of Customs, and before permission to land should have been given by such officer. Twenty years later, in 1896, this power to make orders was ~~alienated~~ from the Privy Council and vested in the Local Government Board. The original Act of 1825, the 1866 Act, and portions of several other Acts were also repealed in 1896, and new machinery provided in the Public Health Act of that year. An attempt made in 1869 to give certain powers ~~h~~ under the Acts of 1866 and 1875 to officers of customs and others now (1896) received the special sanction of the law, and provision was made for the enforcement and execution of orders and regulations relating to infected vessels made under the Public Health Act, by the officers of the customs, and the officers and men employed in the coast guard, as well as by other authorities, always, however, subject to the consent of the Commissioners of Customs, the Admiralty, and the Board of Trade. These regulations among other things, provided for (a) signals to be hoisted by vessels having any infectious cases on board, (b) questions to be answered by masters of vessels and others as to cases of disease on board, (c) the detention of vessels or persons,

persons, (d) the duties to be performed in cases of such disease by masters, pilots and other persons on board vessels. In 1890, ^{under power contained in sec. 130 of the P.H.A., 1875,} the well known regulations as ^{the prevention of} to Cholera, repealing these previously in force were ^{in accordance with the provisions of the P.H.A., and the P.H.(ports)A., of that year,} made. They were amended in 1896 [^] and, as the culmination of modern sanitary forethought, now form the basis upon which infected vessels of all kinds are dealt with in English ports. In these regulations the term "infected" means infected with Cholera, Yellow fever, or Plague: Provided that every ship shall be deemed infected in which there is ^s or has been during the voyage or during the stay of such ship in port, or in the course of such voyage any case of Cholera, Yellow fever, or Plague. But what was the position of affairs in Trinidad whilst all these prodigious changes were taking place in England? From 1832 to 1871 the local authorities appear to have been strongly impressed by a proviso to one of the sections of the 1832 Act which ordained that "until otherwise suspended or repealed" the ordinance should continue to be in force notwithstanding any suspension or repeal within the United Kingdom of the said recited statute or any part thereof"; for they allowed the enactment in force [^] ~~un~~altered, regardless of the progressive measures which meanwhile had been adopted in England. At last, however, with the smallpox epidemic of 1871 a change came over the spirit of their dreams, and abandoning the apathy to which their predecessors in office had given such conspicuous proof, they assumed their responsibilities in the

the matter of marine Sanitation, and proceeded to set the legislative wheel in motion with an impetus that was destined to keep it rolling for many years on an active, ^{though erratic} career during which it never came to a stop until, so to speak, it struck up ~~against~~ the Cholera Regulations. In fact passing on from the Order in Council of 1818 and the adoption of the English 1825 Act in 1832, we find that no less than ten Ordinances relating to quarantine on the statute book in Trinidad. Taking them in chronological order they are as follows:-

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| No 3 of 1871 | An Ordinance as to Quarantine. |
| 3 of 1877 | An Ordinance to amend the law as to quarantine. |
| 20 of 1886 | An Ordinance to amend the Quarantine Ordinance 1871. |
| 4 of 1888 | An Ordinance to amend the law as to Quarantine. |
| 18 of 1893 | An Ordinance to amend the law relating to Quarantine. |
| 32 of 1894 | An Ordinance to amend the law relating to Quarantine ^{Ordinance} _{of 1893} |
| 2 of 1895 | An Ordinance to amend the Quarantine (amendment) Ordinance of 1894 |
| 7 of 1896 | An Ordinance to amend the Quarantine Ordinance of 1893. |
| 27 of 1902 | An Ordinance to amend the Quarantine Ordinances of 1893-1894 |

Besides

Besides this giddy list, there were two quasi-quarantine Ordinances viz:-

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| 23 of 1902 | An Ordinance to provide for the compulsory vaccination of persons arriving from places infected with smallpox.
(Passengers' Vaccination Ordinance) |
| 31 of 1903 | An Ordinance to amend the Passengers' Vaccination Ordinance. |

Truly a remarkable record of Quarantine legislation in a little over the decades, testifying eloquently to the innate faultiness of the system. The salient points of these Ordinances are briefly as follows:-

No 9 of 1871 repealed 9 of 1832 which rescinded the Order in Council of 1818. It provided (sec.3) for the formation of a Quarantine Board, of not less than three and not more than five persons, and gave power to the Governor in Council (sec.5) to make regulations for the more effectually carrying out of the law. An infected place (sec.2) was defined as "any port or place where the Yellow fever, the Plague, Cholera or any epidemic disease, in fact, prevails, or any port or place which the Governor with the advice of the Executive Council may declare to be an infected port or place." Curiously enough although there was a severe epidemic of smallpox in Trinidad, and indeed throughout the West Indies in that

that year, the disease is not specifically included in the schedule . Section 6 empowered the Governor to declare any place, from which it was possible that disease might be imported, an infected place. By section 7 liability to quarantine was incurred by "every vessel arriving at this Island, together with all persons, goods and merchandize whatsoever therein, coming from any infected place, or having on board any person who had come from any infected place, or who is ill with any contagious or infectious disease, or on board of which vessel any person shall have died, or shall have been ill from any such disease during the passage to this Island". The Harbour Master (sec 8) or other visiting officer of the port had power to put no less than 21 questions to the master of the vessel with a view to eliciting any history of infection, the master y being bound under penalty to answer truthfully.

Section 16 limited the duration of quarantine to 14 days where a death or a case of sickness occurred on board during the voyage within 14 days of the vessel's arrival in port, the period of quarantine to reckon from the date of the death, or the cessation of the sickness. No information is given as to how it was proposed to determine on what date the sickness could be said to have ceased. By the same section vessels that were mere contacts, that is to say, had only touched or communicated

communicated with an infected place, but were not infected in fact, were liable to quarantine for not less than ten days, and not more than fourteen days. If a case of sickness broke out on board during the period of quarantine, the vessel was liable to an extra term of fourteen days also commencing from the date "on which such sickness shall have ceased." Further clauses made it compulsory for infected vessels to fly the Yellow flag by day and hoist a distinctive lantern to the masthead by night; gave power to the Governor to establish Lazarettos; forbade the landing of any cargo from infected vessels from the expiration of the quarantine period, and provided heavy penalties for breaches of the Ordinance. No 3 of 1877 was an extension of the preceding Ordinance providing for a definition of the term "infected vessel" which (sec.2) was interpreted as "every vessel on board of which on any given day there is, or, on any of the preceding 14 days, there was a person suffering from a contagious or infectious disease (within the meaning of sec.2 of Ordinance 9 of 1871), and also every vessel on board of which on any given day any article or thing which was on such given day, or on any day of the preceding 14 days, ⁱⁿ an infected place, is an infected vessel on such given day. By section 3, vessels getting infected in port were liable to be treated as infected ^{vessels} coming foreign. Next in order comes Ordinance 20 of 1886. It was a short Ordinance passed with the object of repealing sec.16 of Ordinance 9 of 1871 relating to the duration of the period of quarantine.

It enacted (sec,1) that "all vessels on board of which any person shall be sick or shall have been sick of any contagious or infectious disease, or shall have died of such disease within 16 days before his arrival at this island shall remain in quarantine until the expiration of not less than 16 days, and not more than 21 days from the day when such sickness shall cease or shall have ceased, or from the day when such death shall have occurred. There was no statement of "Objects and Reasons" published with the bill, and it is difficult to comprehend why this extravagant increase in the previously fixed term of quarantine was imposed. It appears, however, that the whole spirit of the Ordinance was directed towards effecting such a change for in section 2 we also find it laid down that "all vessels which have sailed from, or touched at an infected port, or have any person on board who shall have come from any such place, shall remain in quarantine for a period not exceeding 21 days. Following on the same principle it goes on to say, in section 3, that "if during quarantine a case of sickness break out on board the vessel, the latter shall undergo a further period of quarantine for any time between 16 and 21 days after the sickness shall have ceased". By this clause the length of time that a vessel could be made to remain in quarantine under favourable or, I should say, unfavourable conditions, was almost indefinite. The next Ordinance 4 of 1888 was brought in merely to settle some doubt about the construction to be placed

placed on a certain section (20) of the quarantine Ordinance of 1821, the meaning of which was doubtful. In 1893, however, a brand new Ordinance, No 18 of that year, was passed with a schedule of repeals including 9 of 1871, 3 of 1877: 20 of 1866, and 4 of 1888 "smallpox" was substituted for "plague" in the definition of infectious disease (sec.3) which was now interpreted to mean Cholera, Yellow fever, Smallpox and any other epidemic disease declared by the Governor and Executive Council to be infectious." "Infected place" was defined as "any port or place

- (a) where an infectious disease exists
 - (1) at the time of the arrival of any vessel therefrom (2) or at the time when the vessel sailed therefrom (3) or within a period of 30 days previous to such departure, or
- (b) which has been declared by the Governor and Council to be an infected place.

It will be noticed that the legislators were steadily increasing the period of prevention which had formerly been considered safe, and it may be well to point out

here that in 1894 an Ordinance, No 18 of that year, was passed rescinding sub-section (a) of section 3 above quoted, and fixing the time on the more rational basis of the incubation period of the particular disease for which the vessel should be quarantined. To return however to the 1893 Ordinance, "Infected Vessels" meant

- (a) Every vessel arriving from an infected place after an absent^{ce} therefrom of less than thirty days, or
- (b) Arriving at this port less than 30 days after having communicated with an infected place or vessel, or
- (c) On board of which there is any person or article which was in an infected vessel or place within the preceding 30 days
- (d) or ^{on} ~~a~~ board of which there was, or had been, a case of infectious disease during the preceding 30 days, or
- (e) on board of which there is any article or thing which has been, or may be suspected to have been, handled by any person~~s~~ suffering from an infectious disease, and which has not been cleansed or disinfected, or
- (f) Every vessel ballasted with sand or mud, wholly or partly containing any insanitary matter liable to cause disease, including rags and water from a Cholera port, or
- (g) Every vessel suspected to be from any cause whatsoever in an insanitary condition likely to be prejudicial to the health of the colony.

The terms of the 1893 Ordinance were in a large measure influenced by the decision arrived at by the British West Indian Conference on Quarantine held in Demerara in 1893. This inter-colonial meeting took place under the auspices of Lord Knutsford, the Secretary of State for the Colonies at the time, and was called to determine the advisability of establishing a uniform system of quarantine throughout the several British Colonies in the West Indies in lieu of the various systems of quarantine then in existence. On this being approved it was also resolved that the time had come to modify the system of quarantine now in operation in the colonies under consideration, by the addition of a system of Medical Inspection, isolation and disinfection. A model Ordinance was framed for the guidance of the various colonial Governments, and its terms were ~~gradually~~ ^{generally} accepted by the delegates, but no sooner did the opportunity arise to put the new rules into practice than each colony struck out on its own, and enforced such fantastic regulations as the imagination of the legislators and the uninformed clamour of the public press required. By section 2 of Ordinance No 32 of 1894 the following enactment was substituted as the definition of an "infected place" in lieu of paragraph "a" of section 3 of Ordinance 18 of 1893 viz. "any place where infectious disease as defined in the principal Ordinance (18 of 1893), exists at the time of the arrival in the colony of any vessel therefrom, or where any such

disease

disease has existed at the time of the departure of any vessel therefrom, or ~~1~~ within the incubation period of the disease in question". From this necessarily followed the repeal of the latter parts of paragraphs b.c. and d. respectively, and also of g in section 3, the words "within the incubation period of the disease in question" taking the place in each case, of the 30 days limit, and for this purpose the incubation period of Cholera was deemed (sec.4) to be 12 days, and Yellow fever, 16 days. In this connection free use was made by the Governor of the power vested in him to declare any epidemic disease to be infectious, and to assign a particular number of days as its incubation period, for in the very next year we find him introducing an Ordinance No 2 of 1895, repealing section 4 of the 1894 Ordinance, and enacting that "the incubation period of Cholera (sec.2) shall be deemed to be six days, and Yellow fever, ^{ten} ~~the~~ days". That however was merely a return to a previously existing state of things, for in the principal Ordinance of 1893, now again under consideration, the incubation period of Cholera was deemed to be 6 days, Yellow fever 10 days and small-pox 14 days. An attempt was made on this occasion to discriminate between different classes of infected vessels.

Those coming under a.b.c, but not otherwise infected (sec.17) were to be kept in quarantine until the incubation period of the particular disease in question was over, reckoning from the day of departure from the infected

infected port.

Under d, e, after removal of all passengers and goods, and ²through cleansing and disinfection, the vessel could be released on the completion of a term of quarantine equal to the incubation period of the disease.

The same applied to those coming under f. The Ordinance also provided for the disinfection of cargo baggage and

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and mails. Clothing and bedding were to be destroyed by fire "if necessary". Bags were not to be imported from any infected place under any circumstances, but animals not liable to convey disease could be landed with proper precautions. Section 34 required the Health officer who went on board an infected vessel or visited a quarantine station to change his clothes at a place appointed by the quarantine authority. By section 47 any vessel arriving in the port without a Bill of Health was to be treated as ^{an} infected vessel. Section 50 required that a certificate of non-communication by a vessel coming foreign should be signed by a British Consular Authority, or Chief Executive officer where there was no such Consular authority, and also that the certificate should contain a statement of the actual procedure adopted. Pains and Penalties were provided in various clauses for the benefit of those who infringed the regulations.

No 7 of 1896 was an amending Ordinance to further extend 18 of 1893 and 2 of 1895. Its purpose was ^{to} repeal section 50 of the 1893 Ordinance, and enacted that a certificate of non-communication given by the port authority of any foreign port shall be valid if countersigned by the British Consular agent or Chief Executive officer. In the former Ordinance the foreign port authority was ignored.

No 27 of 1902 is the last quarantine Ordinance passed in this island. It was brought on during the

artificial

artificial panic caused by the recent epidemic of small-pox in Barbadoes, and was decidedly of a retrograde character, its principal object being to prevent the importation of ground provisions, poultry, animal stock, (including pigs and goats,) and also quick-lime, either in barrel or in bulk, from Barbadoes. It was framed as an extension of the quarantine Ordinances of 1893-94, and gave power to the Governor to prohibit (sec.2)) the importation into the colony of animals, goods and articles of every description, except letters and passengers, personal effects from any port or place declared to be an infected place.

No 23 of 1902, was entitled the "Passengers' Vaccination Ordinance, and was introduced to provide for the compulsory vaccination of ^{any} persons landing in the colony from a place infected with smallpox, unless he could satisfy the Health officer that he was vaccinated within two years. Three or four months later an amending Ordinance, No 31 of 1902, was passed extending the above mentioned period from two to ten years. It must be admitted from the foregoing that if the object of the proviso already referred to in the 1832 Ordinance was to encourage the local authorities to work out their own salvation, the result was a dismal failure, for with a law still on the statute book enforcing a strict quarantine, in the case of small-pox, for example, against protected and unprotected persons alike, and with fresh legislation to prohibit the importation of pigs, potatoes and poultry,

poultry, they were manifestly as far removed from the promised land of rational marine sanitation at the end of 1902 as they were in 1813 when the first quarantine Ordinance was introduced. In point of fact matters were now much worse than at the commencement of the last century.

For while at that period quarantine was believed in with a faith that was almost religious in its staunchness as the best means of staving off foreign infection, now with the enormous extension of trade and commerce in the West Indies as compared with what existed a hundred years ago, new considerations, unhappily having no relationship with sanitation, came into play, and the question of declaring a place infected or not, as well as the duration or the rigidity of quarantine depended largely upon the manner in which trade was likely to be affected. For example owing to the important necessity of unrestricted communication with the North American and European markets the quarantine laws were ^{never} made to apply to vessels coming from the United Kingdom and America, even during the prevalence of smallpox in epidemic form in such centres as New York, Halifax or London, and although passenger steamers from the States and Canada now make the run down to the West Indies in a week or less, and from some of the English ports in ten or eleven days. That this uncontrolled intercourse, however desirable from a commercial point of view, is not without risks just as grave as those against which inter-colonial quarantine

quarantine is provided, is indisputable, for the recent epidemic of smallpox in Barbadoes which was instrumental in bringing out the worse features of the quarantine system, owed its origin to a case directly imported from Halifax. Conversely, during the epidemic in Trinidad, a gentleman who left this colony for England, took ill on board, and was landed with smallpox at Falmouth. Nevertheless the exigencies of trade make it inexpedient that quarantine should apply to vessels coming from Home and American ports. Among the colonies themselves, however, the case is viewed from a different standpoint. Take any two colonies supplying the same commodities: it is clear that restrictions placed upon the trade of the one must benefit the other; and the longer the infected place can be kept under quarantine, the longer the other is likely to benefit. As regards the considerations which influence the duration of quarantine, we may take a concrete instance. During the smallpox epidemic in Barbadoes, Demerara increased the quarantine to twenty-one days in spite of the fourteen days period agreed upon at the Conference of 1888. What was the effect of that action? Trinidad ran the risk of being declared an infected port by Demerara for releasing vessels hailing from Barbadoes after fourteen days detention only. The result was that a boat leaving, say St Lucia, with a large cargo or several passengers for Demerara, would refuse an offer to include a smaller cargo or a lesser number of passengers for Trinidad on her way down south, because she would thereby become liable to three weeks quarantine

quarantine on her arrival at Demerara for having touched at Trinidad. Now in order to prevent this circumstance, the feeling ⁱⁿ ~~of~~ Trinidad would be, and as a matter of fact, was, though the attempt was defeated, to fall in line with Demerara, and increase the period of quarantine to twenty-one days. Some years ago whilst assisting Dr Leslie McKenzie, the late Medical officer of Health for Leith, now Medical ~~member of~~ the Local Government Board for Scotland, trade between Venezuela and Trinidad was very much disturbed owing to its being found necessary to quarantine several important Venezuelan ports for smallpox. From some papers sent to me I was struck with the disadvantages of the system in force, and I set out to prepare a monograph on the subject; but for one reason or another it remained unfinished until last year when I took up the question afresh. On this occasion I not only had ample opportunities of observing the practice as it applied to others, but I also had personal experience of it, having been isolated ^{for} ~~for~~ for the statutory period on my return from Barbadoes, after a visit to that Colony during the smallpox epidemic. As this paper gives a fair picture of the manner in which the system was worked and had the merit, if any, of being the first public attempt made in the West Indies to denounce the old fetish, and advocate a new method of dealing with foreign infection on lines similar to those recommended at the Conference which subsequently took place in Barbadoes, I think it may not, perhaps, be out of place for me to quote a portion of it here. The paper was read at the Victoria Institute

Institute in Port of Spain, and on that occasion, after tracing the history of Quarantine in Europe and America, and pointing out the reasons why its practice was abandoned in the United Kingdom, I proceeded as follows:-

"Coming nearer home, we find that in the West Indies we are nearly as far back as the three original guardians of the public health. The ban is placed upon a number of diseases such as Plague, Cholera, Yellow fever and Smallpox, each having a different natural history, each capable of spread in its own way, requiring a different method of prophylaxis ^{and} the adoption of special ^a measures to prevent its propagation.

Though the latent period of these diseases vary, ^{an arbitrary} ~~the same~~ period of quarantine is fixed for every ship whether actually infected or ~~y~~ merely deemed to be so within the meaning of the Ordinance. As the subject of quarantine is said to be the protection of the community from foreign infection, I propose to go over the scheduled diseases one by one and to point out in what respect quarantine falls short of its purpose. As far back as 1852 a Royal Commission was appointed by the late Queen Victoria to investigate the question of quarantine in regard to its application during the epidemic of Yellow fever.

Evidence was taken from the English, French, Spanish

and

This refers to the three "Guardians of the Public Health" appointed by the Venetian Authorities in 1348. Their principal duty was to prevent the introduction of Plague from the East. Reference was made to them in an earlier part of the paper.

and Danish West Indies, and from America, Africa and Gibraltar. In the voluminous report presented to both Houses of Parliament, the Commissioners conclusively showed the non-contagious character of the disease, and the mischievousness of quarantine as applied to it. Dr Reece of New York who gave evidence before the Commissioners stated that the Yellow fever never was, nor ever will be, imported into this port by sea or land in the persons of the sick, for the reason that it is not a contagious fever as smallpox is, - that is, it is not communicable from the bodies of the sick to the healthy. It can only be imported in the holds of vessels, nor is there any danger of cargoes or persons. The Yellow fever is not communicated by personal contact, but by an infected atmosphere." We now know that the infected atmosphere means infected mosquitoes, but to that I shall refer later. "I have lived, Dr Reece continues, "in the midst of the sick and dying of Yellow fever who had been removed into a healthy situation, without witnessing a single instance of infection among physicians and nurses, and ^{but} for the antiquated superstition of the time, there would be as much reason for prohibiting a passenger whose leg was broken from being brought into the city as one sick of yellow fever. Dr Milr^ey, an English physician, speaking of his experience in Jamaica and Havanna^h, two renowned sources of yellow fever in past times, ^{said} "There is one circumstance in the history of yellow fever which has made a strong impression upon

my mind as regards its general mode of diffusion, and it is this, the unanimous convictions of the medical men in Jamaica and also those in Havanna whom I met, that the disease is not contagious or communicable from ^{the} sick to the healthy. I had the opportunity of conversing with resident medical men in every part of Jamaica and nowhere did I hear any difference of opinion on that subject.

"Dr Blair, a Scotchman, speaking of his experience in Demerara, says: "The yellow fever cases in their worst forms were never separated from other patients in our hospitals ward^s; such a thing was not deemed necessary and never thought of. Our hospitals nurses never got infected although in closest connection with the sick and often smeared with their ejections, and these nurses were generally German and Portuguese immigrants". Dr Gillkrest a British Inspector General of Army hospitals who not only had large experience of yellow fever in different colonies, but who carried out a thorough investigation of the subject on behalf of the General Board of Health, thus expresses himself.

"Quarantine laws in reference to yellow fever are not only unnecessary, but cruel and unjust, often producing great privation and suffering, and frequently, instead of checking the progress of the disease, increasing the number of victims by confining people to ships of infected localities ashore, thereby rendering escape from the real source of disease impossible, and finally acting most injuriously on commercial intercourse".

With

By "ejections" Dr Blair probably meant vomited matter. In Copland's Dictionary of Practical Medicine (London 1858) Vol I p. 321. the following appears with reference to the Causes, Symptoms, etc of Cholera. "....."to these succeed nausea and retchings, with the ejection of a watery fluid.".....

With abundant evidence of this kind the Commissioners summed up as follows: "There is no evidence to prove that yellow fever has ^{ever} been imported from one place to another, and that consequently the means of protection are not quarantine restrictions and sanitary cordons, but sanitary works". Some of you may be inclined to say "All this is tale of the early fifties". Science progresses by leaps and bounds. We want something fresh. Tell us what the opinion of recent observers are". Gentlemen the searchlight of the present day science thrown back upon the recorded observations of the distinguished pioneers whom I have just quoted only serve to illumine and bring out in strong relief the truths that have too long remained obscure in the West Indies.

In 1900-01, an Army Commission appointed by the United States Government to conduct researches concerning the etiology, propagation and prevention of yellow fever, carried out its experiments in the island of Cuba. The non-contagious character of this disease was one of the first things which impressed the Commissioners. They saw, as they said, with some surprise, that patients in all stages of yellow fever could be cared for by non-immune nurses without danger of contracting the disease. Struck with this fact they proceeded to find out how the disease was propagated.

Attempts were made to isolate a specific micro-organism, according to the usual bacteriological methods, but these failed to give satisfactory results.

Inoculations with the excreta of persons suffering

ing from yellow fever showed that the disease was not transmitted from the source. Attention was then turned to the blood, and it was found that a small quantity of blood taken from the ~~v~~^eins of a yellow fever patient would produce an attack of the disease if injected into a healthy non-immune person. This was the first great step towards success. The question was how, under ordinary circumstances, did the blood of one individual find its way into the tissues of another. The brilliant works of Major Ronald Ross, of the Liverpool School of Tropical Medicine, and of Grassi and others in the field of malarial research, paved the way for the American Commissioners' line of thought. They observed that the spread of yellow fever appeared to depend upon the temperature of the air and other meteorological conditions just as malarial fever was known to do, its endemic curve in Havanna¹ and epidemic curve in the Southern States of America rising and falling with the annual temperature curve. With these points of resemblance, it seemed to them that if the ¹ malarial poison was transmitted by a particular kind of mosquito from sick to sound, it was not unlikely that a similar thing took place in the case of yellow fever. At any rate they res¹olved to try and find out. To exclude the possibility of the disease being communicated by fomites, they constructed an almost air-tight room 14 X 20, ventilated by two small windows protected with mosquito proof netting. In

this

this room were placed three large boxes packed in the yellow fever hospital near Havannah with soiled sheets, pillow slips, and blankets purposely contaminated in a liberal manner with black vomit and other effete matter. Many soiled articles were hung up about the room in order, if possible, to thoroughly infect the atmosphere. At six o'clock on the appointed day a surgeon and two privates of the hospital corps, all recently arrived young Americans, entered the room and proceeded to unpack the boxes. Taking off their own clothes they put on soiled night shirts previously worn by yellow fever patients, and gave each article removed from the boxes a vigorous shaking. Finally they spread the clothes out on the floor and slept on them.

Next morning they packed the boxes, and emptied them out again at night. They carried on in this way for twenty-one days after which they emerged from their insanitary surroundings just as well and as lively as when they went in. Experiments of this kind were repeated on many occasions, with invariably the same results, thus showing the body discharges of persons suffering from yellow fever to be innocuous, and completely disproving the old theory of infection by fomites still so fondly adhered to by the various West Indian Quarantine Boards.

While these experiments were being carried out, the Commissioners were also giving their attention to
the

the blood-sucking insects, and more particularly to a certain gnat, the stegomyia fasciata, commonly known as the Scotch grey or "tiger" mosquito, and easily identified by its greyish black body, spotted with silvery white marks, and black legs decorated with white bands.

They found that this mosquito was the agent which carried the yellow fever poison from the blood of the sick to the sound. To prove this fact, they built a wooden hut in healthy surroundings, and made it clean and comfortable inside. Fifteen contaminated mosquitoes were set free in the room, and a young American soldier followed. He remained there for a half an hour and was freely bitten. He repeated his visit later in the day, and again on the following day. From that time he was kept under observation, and though all other sources of infection were excluded he developed an attack of yellow fever within four days of his first contact with the infected mosquito. The experiment was repeated on other subjects, and almost invariably after a latent period of three or four days the disease proclaimed itself, death resulting in one case. Thus the yellow fever-bearing capacity of the mosquito was definitely proved. The result of those investigations pointed in the direction in which preventive measures against the spread of yellow fever ought to be taken, that is, towards the destruction of mosquitoes wherever the disease is known to exist, the protection of

the beds of the sick by mosquito-proof~~ing~~ netting to prevent the uncontaminated insects from being infected, and the use of the netting by the healthy to prevent the bites of such mosquitoes as do acquire the poison.

These measures were not only sound in theory, but efficient in practice, for they were successfully carried out in Havannah, with the result that not a single case of yellow fever occurred in that city during the following year, though the disease had previously been known to break out there with unfailing regularity for the preceding hundred and forty years. This gentleman, has been one of the greatest triumphs of modern preventive medicine. Solid work of that kind we cannot ignore if we are to be looked upon as a progressive people, and the most practical manner in which we can acknowledge its worth is to abolish the obsolete methods of prevention now in force and to substitute such measures as the circumstances demand. I have dealt on this subject of yellow fever at some length primarily because it is the disease against which quarantine~~ing~~ was first adopted in the New World, and also because the idea of the utility of quarantine is more closely associated with it, than with any of the other diseases on the schedule.

If therefore, I am able to convince you of its uselessness as ~~against~~ yellow fever, the task may not be as difficult as regards the other quarantinable diseases to which I shall now refer. We have already seen that

sanitary

sanitary cordons and other quarantine measures failed time after time to keep out Cholera from the Continent of Europe. The first report of the Royal Commissioners ^{to} whom I referred in a preceding part of this paper dealt with quarantine in its relation to Cholera, and the following is a short summary, of the verdict arrived at:- "On the first eruption of the pestilence (cholera) into Europe in 1831-32, every nation successively ^eman-
aced by it ende^{ea}avoured to bar it from passing its front-
ier ^{by} of rigorous quarantine, and by military cordons, but in every instance without avail. Again the like attempt was made in 1847-48, and again it was everywhere admitted to be thoroughly ineffectual. Though many medical men in Great Britain had long ceased to place confidence in these expedients, yet the constituted medical authorities appeared still to regard themselves in some degree as securities, but, founded on recent experience, the Royal College of Physicians of London have changed their former belief, have declared an opinion in accordance with that previously expressed by the General Board of Health and have recorded their conclusions in the following words:- Cholera appears to have been rarely communicated by personal intercourse and all attempts to stay its progress by cordons or quarantine failed. From this circumstance the Committee agree in drawing this practical conclusion: that in a district where Cholera prevails no appreciable increase of danger is incurred by minister-

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ministering to persons affected with it, and no safety afforded to the community by the isolation of the sick. I have concluded the last sentence **so** as to put the whole case fairly before you, but we now know that by isolating the sick we restrict the sources from which infection may spread, and thus help to check the ^{progress} spread of the disease.

"Recent ^e Experience", the report goes on to say, "has rendered the fallacy of quarantine so palpable that the attempt to avert the visitation of epidemic Cholera by such an agency has been aptly compared to that of the countryman who endeavoured ^{up} to pound out the crows by shutting the park gates". Since Professor Koch's great discovery of the Comma bacillus, we know that cholera is propagated by the micro-organism present in the alimentary tract of those suffering from the disease, and that in order to contract it we require to swallow the specific germ in our feed or drink. "You can eat cholera, you drink cholera", said the late Ernest Hart, "but you can't catch cholera". While we keep our water pure, and our feed uncontaminated there is no danger of infecting ourselves. As regards importing the disease, quarantine is no preventive, for long after the period of detention is over, a person, who ^s have suffered from cholera, and is to all appearances quite well, may carry the germs in his body, and should his dejecta contaminate the water supply, all these who drink from the polluted source are liable to infection.

Pound is derived from the Anglo-Saxon
pyndan, to confine in a pound or place
of public restraint. The original simile
appears in Milton's *Areopagitica*, (Clar. Press.
1874. p 21) thus "To liken it to the exploit
of that gallant man who thought to
pound up the crows by shutting his park gates.
In the parliamentary report from which I quoted, the
words are, "to pound out etc"

On the other hand, by isolating the sick, by disinfecting the discharges and soiled linen, by boiling and filtering the drinking water, no risk whatever is run.

Under the quarantine system great mischief may be wrought by compelling the passengers and crew of an infected vessel to remain on board ship during the quarantine period drinking the contaminated water or eating the infected feed. Now that we know the causation of cholera, and the manner in which it is spread, it is our duty to adopt the reasonable methods which present day science dictates, and to abandon the old system which was founded in ignorance upon false and mischievous premises. Regarding plague,^{as} the disease is endemic in India and frequently epidemic in certain of the South American ports, we are liable to invasion from it in Trinidad owing to our maritime intercourse with these parts, and to our coolie immigration. Though cases of plague are imported into the United Kingdom from time to time, nevertheless we have a fine object lesson in the manner in which Great Britain with her enormous maritime traffic and her numerous ports of entry keeps out the contagion without enforcing quarantine. The disease has a latent period of 2 to 7 days and is caused by a specific germ, the bacillus pestis. Infection takes place chiefly by inoculation and contact.

Rats are very susceptible of it, and are regarded as carriers of the disease which may be conveyed to man through the agency of fleas, or from the inhalation or swallowing of the specific bacilli derived from fomites. The measures of prevention are such as the knowledge of these facts demand, and include the destruction and satisfactory disposal of rats on board ships, the disinfection of all rags, infected clothing and other fomites, ^{of anomalous or suspected cases, and} the isolation during the latent period of the disease, of such of the passengers and crew as are supposed by the Health Officer to be incubating it. Such are the measures which protect the public health without hampering trade in the way that our primitive quarantine restrictions now do.

Lastly we come to smallpox, and, in the light of present events, the most interesting of the series.

It may be said at the outset that if quarantine could be shown to have any justification at all, there is no disease in which its application would be more uncalled for than smallpox. More than a century ago Jenner showed us how to prevent smallpox, and with such a weapon ~~of~~ as vaccination in our hands, combined with isolation and disinfection we can confidently fight smallpox in the open, and not behind the hedge of quarantine. Thank Heaven we have no anti-vaccinationist faction in our midst. We all acknowledge the blessing which vaccination brought to mankind, and most of us are ready, not only to have ourselves and our children vaccinated,

vaccinated, but to submit to re-vaccination as well. You have heard how Barbadoes has suffered during the present epidemic of smallpox, which would in all probability have been stamped out long ago if a certain section of the people had not set themselves against the teachings of medical science and refused the boon vaccination.

But while we are able to pin our faith to vaccination for the prevention of smallpox, the same reliance cannot be placed on quarantine which most of you will admit does not afford us any reliable security against the importation of infectious disease. The present epidemic is a case in point. While the authorities were busy keeping their weather eye on Barbadoes, the "NEW DISEASE", or rather the old disease in its new guise quietly came unnoticed from Venezuela and spread itself throughout the island. There is nothing to prevent infection coming here from America in the same way. The Barbadoes quarantine laws are similar to ours, yet the man Miller landed there from Halifax and spread smallpox. And even if the enforcement of quarantine did afford any reasonable protection, the lack of discretion conspicuous in its application must often lead to obvious absurdities and hardships. Take my own case, for example: I had a mild attack of smallpox in infancy, and I was vaccinated in 1895 during an outbreak of smallpox in Edinburgh; last December I had myself re-vaccinated for the purpose of my trip to Barbadoes. On my return to Trinidad I was quarantined for the usual period. Now, do the authorities who confined me to Craig Island believe in

in vaccination ? We may safely say they do. That being the case I should like to know ^{why} in the name of common sense was I kept on the station any longer than was necessary to disinfect my baggage and wearing apparel ? Having already had smallpox, and being well vaccinated I could not possibly be incubating the disease, and my detention on ^{the} quarantine station was nothing but a senseless procedure which had to be carried out in order to conform with existing laws which no forward country should maintain. In these matters we require to be practical: if there are any sick with smallpox on an infected ship, remove them to a proper hospital, vaccinate all those who need it, isolate suspicious cases, but by all means let the others go free after their clothes and baggage have been ~~been~~ disinfected; keep them under medical ^{surveillance} if needs be, but don't detain susceptible and insusceptible, infected and uninfected alike for the statutory period in the belief that you are doing what is necessary for the protection of the public health. There was a time when the enforcement of strict quarantine soothed public anxiety and acted as a sop to popular recollections of past epidemics, ~~but~~ but now-a-days professional scepticism as to the merits of quarantine has percolated into the minds of the lay public, and anxiety is no longer allayed by vain attempts to seal our ports. In 1898 we suffered here from the nuisance of having to quarantine several Venezuelan ports for ^{an} eruptive fever similar, I am told, to the "new disease"; the local merchants grew very irritable over the inconvenience to which the protective measures

measures subjected them, and they began to ask them-
whether all these restrictions were really necessary.

The matter interested me at the time, and from the
Leith Public Health office where I was then engaged I
sent out circulars to the Health Officers of some of the
principal ports of England and Scotland, setting forth
the West Indian practice, suggesting alterations and
asking their opinions on them. Here are the papers:-

Public Health Office,

Leith,

7th September, 1898.

Dear Sir,

I am engaged in preparing a monograph on
the quarantine system now existing in the West Indies,
especially in regard to its practice in the island of
Trinidad, where all vessels coming from or having
touched at an infected port (plague, cholera, yellow
fever and smallpox being included among the quarantine
diseases) are de facto deemed infected, and are subject-
ed to a rigid quarantine of 14 days duration whether
infectious disease has, or has not occurred on board.

As it is my intention in so far as I am able to counsel
the abolition of this practice, I would be greatly ob-
liged if you would favour me with your opinion as to

(1) Whether it is necessary for the public
safety that vessels coming from or having touched at an
infected port should be deemed infected on these grounds
alone.

alone.

(2) Where a vessel is actually infected whether on due precaution being taken, such, for example as are recommended by the Cholera Regulations of this country, the vessel may not ~~not~~ be allowed free pratique, and the passenger and crew who appear free from infection allowed to land with safety to the public.

(3) Regarding smallpox in particular, where there has been an outbreak on board, whether after the removal of the sick, and the vaccination of those directly exposed to the contagion, the ship may not after disinfection be allowed pratique, and the rest of the passengers and crew given the option of vaccination and allowed to land, care being taken to disinfect kits and luggage and to put down their names and addresses for purposes of medical supervision. The following replies are from Plymouth, Liverpool and Glasgow respectively:-

Health Department,

Municipal Buildings,

Plymouth 12th Oct. 1888.

Dear Sir,

I must apologize for having mislaid your circular in reference to quarantine in the W.I. I am quite at one with you. I am of opinion that the same system should be adopted as in England, medical inspection, removal of the infected sick, disinfection of cabins, clothing etc. In reference to smallpox, I am again with you.

Having

Having had some eight years experience of quarantine work, I feel confident that the present system adopted in England is a sufficient safeguard.

Yours faithfully,

(sgd) F.M.Williams.

G.Masson, Esq.M.D.

Heckley, Essex.

Public Health Department,

Municipal Buildings, Dale St.

Liverpool.

30th Sept, 1898.

Dr G.H.Masson.

Constitution St,

Leith.

My Dear Sir,

In reply to your letter dated 10th September, my opinion is that the measures which have been found effective in this country in regard to dealing with vessels

(1) Coming from infected ports

(2) Actually infected

are

are quite adequate to meet the necessities of the respective cases. So far as actual experience goes, I would ^{add} append that the cholera regulations relating to passengers and crew leave little if anything to be desired. I agree with you in regard to (3) relating to smallpox and am of opinion that your paragraph sets forth all that can reasonably be asked.

(sgd). E.W.Hope.

Medical Officer of Health.

Sanitary Chambers,

Glasgow,

13th October, 1898.

Dr George H. Masson.

Heckley, Essex.

Quarantine

My Dear Sir,

Your letter of the 10th September, dated from the Public Health Office, Leith, was forwarded to me in Ballater where I was just beginning my month's holiday. Although it ~~was~~ was not convenient to take it up just then, and although I have been, and am much distracted by demands on my time incidental to my appointment on the Scotch Local Government Board, the essential reason for the delay in my reply to which your reminder

reminder of the 11th inst directs my attention was this:

This country has long and persistently adopted and advocated a policy antagonistic to that which is involved in quarantine. I, of course, entirely concur in the national policy. It has been repeatedly discussed at international Conference^s, more particularly at that held in Venice in 1892, supplemented by a subsidiary Conference in Paris specially to discuss British objections to details of quarantine precautions, and at Dresden in 1893.

The subject ~~a~~ matter of these conferences you will find fully discussed and described in the reports of the medical officer of the Local Government Board of England from 1892-93 onwards.

Great Britain has throughout these conferences ~~uniformly~~ maintained one policy, and has been successful in very much breaking down the quarantine practices of European nations.

In these circumstances I did not see that your letter could be answered except by discussing again the whole question of ~~the~~ ^{our} ~~inter~~ national policy just as if I had any dubiety about it, whereas I have none. Of course I think the practices of this country on all the points you put to be the best and I adhere to them.

The system of quarantine cannot be discussed solely with reference to what goes on at the port of arrival or departure. It involves a reference to the whole sanitary system of the country.

I am afraid you will not consider this a very satisfactory and useful reply, but after very careful consideration, I cannot give any other.

Yours truly,

(sgd) James B. Russell. M.D. LL.D.

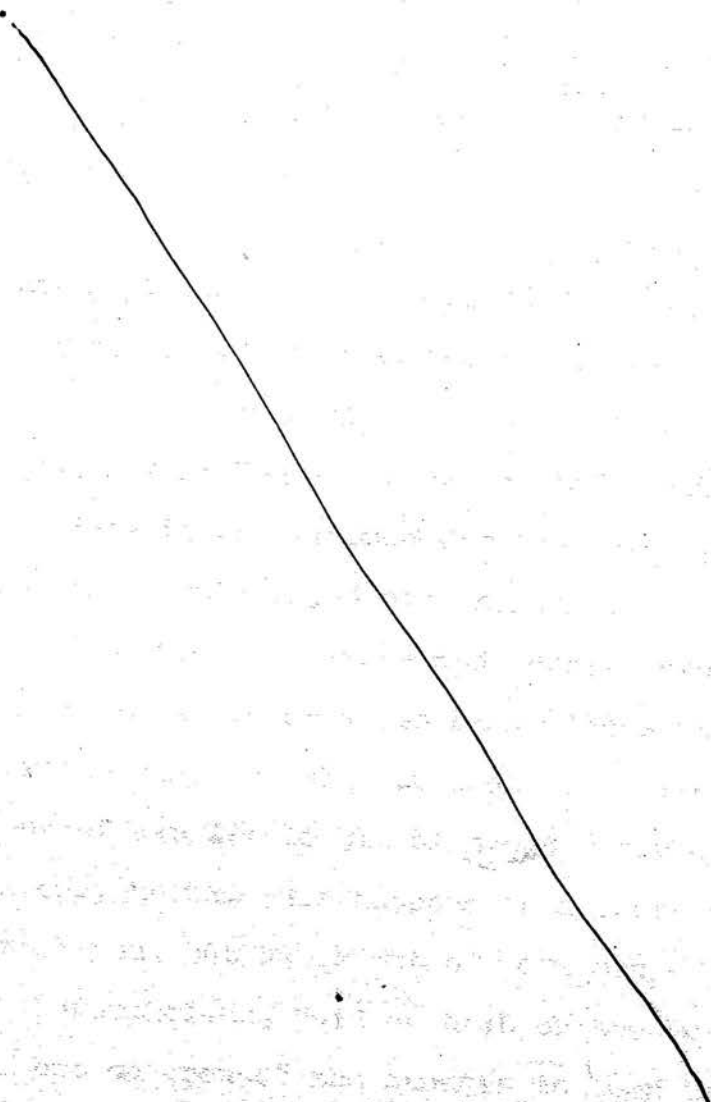
These letters speak for themselves, and as regards the practicability of the suggested reforms I would say that in a small colony like this with a single port of entry and a not overwhelming traffic it would be far easier to prevent the importation and spread of disease than in a large port like Liverpool or Glasgow where the trade is enormous, and where passengers and crew land in hundreds every day. With our ^{one} portal system of entry, and our comparatively small trade, I think we have an ideal foundation to work a modern system of maritime sanitation based upon what now obtains in Great Britain but modified to suit local conditions. So far, gentlemen, we have been viewing chiefly the negative effects of quarantine, and I must now draw your attention to its positive capacity for mischief. Most of us understand in a more or less vague manner that quarantine hampers maritime traffic, but within recent years we have had no actual experience here of how the hoisting of the yellow flag damages the trade, ruins the commerce, kills the industries and blights the happiness

happiness of the people over whose country it flies. One needs to go to Barbados just now to see and realize the picture. An empty shipping where stately merchantmen bristling iron clads and proud liners once rode at anchor in Carlisle Bay, giving employment to fussy tugs, and hundreds of lightermen, boatmen, business clerks and Customs Officers; desolate quays where goods from all parts of the world once lay piled in apparent confusion, fresh heaps regularly taking the place of those removed; idle "wharf rats" and begging loafers in the place of the busy labourers and stevedores who jostled and chaffed each other in the rollicking times before the quarantine, filling the air with boisterous laughter. Their faces are thin now, and though they laugh and quarrel just the same, their spirits are not so high, and against their white teeth ^{you notice} their gums are pale, — "Dinner was short last night, and this morning we are pretty empty buss, trying to raise the wind".

Empty stores, clerks idle at the doors, the masters sullen and preoccupied. Approach one; he will speak of nothing else but the quarantine. "We did well enough in ordinary times, but the quarantine has 'played the devil' with our business, and we don't know what will happen if it continues. We use to do a good business with St. Lucia, Demerara and Dominica, but its all stopped

now

now. They ~~w~~on't take anything from us. Frightened of the smallpox? All nonsense, if you ask me, but there it is." The blight of the quarantine even falls on the cheerfulness of the club-goers, and at the bar or in the billiard room, the dining hall or the reading room, you will hear whispers of ^{the} all-~~f~~-absorbing topic, - the quarantine. Nobody worries about small-pox; its ^{the} trade restrictions they think about. Go to your hotel.



At

At one time every table in the dining hall was occupied by tourists and business men, by the military and their friends. Now there's barely half a dozen seats^{ed} and the landlord is glum. He cant afford to keep the trim and smart waiters of better days; one or two lazy boys and an old hand to drive them are all you meet. The once full stables are now partly empty; the carriages are there, because they don't eat anything, but most of the horses are sold for there's no one to drive, and their upkeep would ^{only} mean more losses until the bright days come back again. Go to the tenantry,- there you will see the Barbadian house wife at her best. Her little hut is tidy and clean. She is trim in appearance, and her lace-bordered apron is as white as her teeth. She has a little plot of land besides ~~the~~ house, every inch of which is cultivated. Here is the lettuce for the market, there the cabbage and parsley; the pigeon peas are also in evidence, and the yams, potatoes and eddoes, are not wanting.

How she manages to crowd so many plants in her miniature garden, how she succeeds in getting so much food out of her little bit of stony ground, bountiful Nature only knows. Her husband is a store porter, she will tell you, but he is out of work now, - the quarantine. Nevertheless, "wid de help ob the Lord, and de little bit ob ground" she manages to keep him and the children from starving. Flying fish is cheap to-day !

~~Leave the ship and go to Government House.~~ The gloom

that

that quarantine casts on everything warps the minds of men who are otherwise excellent fellows, and influences their good judgment in a manner which they themselves would hardly credit in less arduous times. "Smallpox" they say, "why, there isn't much of it here. It's not interfering with anybody, and besides, there's something concealed in every one of those islands imposing quarantine upon us. The yellow fever, we know for a fact, is raging in St Lucia now, and as to the "black measles" in Trinidad, why its nothing else but smallpox"! The best that can be said of quarantine is that from the very beginning it was a crude measure brought forward at an age when sanitation as a science did not exist, and when the causation of infectious disease was explained by superstitious theories rather than by the facts which the compound microscope and modern research have revealed to us. In spite of its manifold disadvantages and its many failures it served for many centuries as well as a make-shift could, but, gentlemen, its day is done, and we must give it up as we have had to do many other old institutions which we found unsuitable to the requirements of the age we live in. If it were even a fairly reliable method of keeping out infection we would be very loath to abandon its practice in favour of new fangled methods of which we have no experience, but it is notorious that while the regulations may look well on paper, in practice they don't work satisfactorily. They are broken again and again, not necessarily through ill-will or disloyalty, but

but because the machinery is cumbersome and requires a good deal of drilling into before the officials engaged in working it, and those against whom it operates can get into the way of doing what is required of them. The universal manner in which the model regulations have been altered, added to and generally tinkered up on the outbreak of smallpox in Barbadoes is proof of that. It may not be pleasant to contemplate the fact, but on the present lines we are fast drifting on to the application of shot gun quarantine, the only goal to which the course we are pursuing can lead us. But granting for a moment that quarantine could be ^{depended} ~~depended~~ upon to keep out infection, if we could find a practical method on which equal reliability could be placed but which did not hamper trade, naturally it would be our duty to adopt it, for if ever the yellow flag ^{ere} ~~was~~ hoisted over this port, and kept flying for a long period, our suffering would be far greater than in Barbadoes. The possibilities of Trinidad with her expanding trade becoming an infected place are real, and we must not on account of our long immunity and our good luck think it a far fetched idea for a case of quarantinable disease to land in the island and spread, hence it is our bounden duty to try and bring about the universal abrogation of these laws in the West Indies, and to fall in line ~~with~~ not with prejudice and ignorance, but with the teachings of science to which we who live in the twentieth century already owe so much. We shall not go wrong if we follow the

example which England, our mother country, ever foremost in the domains of Preventive Medicine, has set out to all nations of the manner in which infectious diseases coming from foreign lands may be met and dealt with. With your permission I shall make a rough sketch of the manner in which I conceive that a system of modern Marine Sanitation may be worked here. First of all we would require a Medical Officer of Health who would give the whole of his time to the duties of his office. In busy times he would probably require an assistant. A Public Health Jetty with a house on the sea end would be a necessity. This building would be divided into what we might call an infected side and a disinfected side. It would be equipped with one or more steam disinfectors, a set of lavatories, and a supply of disinfectants. Another requirement would be an infectious disease hospital within easy reach of the landing place with pavilions for the different quarantinable diseases, and also one for keeping suspected cases under observation, and an intelligent staff of Sanitary Inspectors, stiffened perhaps with one or two trained men from England, under the direction of the Medical Officer of Health. A ship coming from an infected port would be required to fly the yellow flag, and to anchor in a part of the harbour reserved for such arrivals. The Health Officer would be the first to go on board. Let us suppose the case where there is actual disease, say smallpox,

smallpox, on board. The sick would be removed to the smallpox hospital, and their belongings to the disinfecter. Of the others, vaccination would be carried out on all those not recently vaccinated. Contacts suspected to be incubating the disease would be sent to the observation pavilion and kept there during the incubation period. The remainder would be landed on the infected side of the pierhouse. There they would be furnished with overalls while their clothes were being disinfected. They would then emerge into the non-infected department and ~~there~~ receive their clothes. The luggage and kits of passengers and crew would also be passed through the disinfecter, and Customs officials would be stationed in the non-infected side of the house to look after revenue matters. Before going away every person so landed, would, if necessary, be made to sign a declaration setting forth his name and address for the purpose of medical supervision. He would bind himself under a heavy penalty to make known without further delay and not to conceal any symptoms of disease, and to answer truthfully all questions put to him by the visiting doctor. On the back^k of the declaration could be printed in several languages^s the leading symptoms of the particular disease for which ~~the~~^{any} person is to be kept under observation. Having made his declaration, the traveller goes about his business. He visits or is visited every day by the doctor, and thus if it turns out that he was really incubating the disease ~~at the time of landing~~ the fact is discovered at

at the earliest possible time, and the spread of the infection prevented. Passengers and crew being removed, the ship could be disinfected by the spray apparatus, or by fumigation, and allowed pratique immediately afterwards. As regards cargo except in special cases, such as infected rags, there is nothing to fear, and ordinary merchandize could be landed as in England without any attempt at disinfection. When the vessel comes from an infected port but has no disease on board, the Health Officer would vaccinate all who require it and allow the vessel immediate pratique. Passengers and crew would land through the pierhouse and have their clothing and such other articles as the doctor may direct disinfected. In the case of yellow fever, attention would be paid to the destruction of mosquitoes by fumigation, not only of the cabins and berths, but of the ship's hold as well. For this purpose the port could be provided with the portable plant for carrying out the Clayton process of disinfection which consists in driving sulphur dioxide into the lower part of a ship's hold and exhausting the air from the upper parts until the whole of the air-space of the vessel is filled with the gas. It is a highly efficient method, and has recently been recommended to the French mercantile marine by the Pasteur Institute of Lille. Not only are such virulent germs as those of plague, smallpox and cholera killed by the gas, but rats and cockroaches, and mosquitoes, bugs, fleas and other

other blood-sucking insects are destroyed, ~~the~~

~~the~~. Other means of prevention such as the emptying of bilge water, the landing and protection of the sick with mosquito netting would all be adopted where necessary and the ship granted pratique. As regards cholera, the Health Officer would see to the destruction of any food contaminated or suspected to be so, ~~with~~ the emptying out and cleansing with disinfectants of all ~~tanks~~ water tanks, cooking and other utensils, the efficient disinfection of soiled clothes, linen and other fomites and the isolation of the sick. Those allowed to go free would be instructed as to the precaution necessary to be taken during the latent period of the disease and besides undergoing medical supervision they might even be furnished with some disinfectant which they could be instructed to make use of in their homes. In the case of plague the destruction and disposal of rats would be attended to. Rags and soiled clothes would receive special attention, and the usual precautions of isolation and registration for the purposes of medical supervision taken. In this way, each disease would be treated on its merits and we ^would know exactly what we are doing instead of groping in the dark as we do now under the quarantine system. Although in allowing persons who might possibly be incubating disease to land we would be incurring a certain amount of risk, yet these persons would bear the same relation

relation to the medical officers that ticket-of-leave men bear to the Police, and the chance of their spreading the disease would be small indeed as compared with that which we blindly take under the quarantine. And, further, even if for argument's sake we regard the chances under both systems as being equal, which they are not, we must bear in mind the important fact that under the new system trade would practically go on as usual. So it is quite clear where our interest as well as our security lies. Of course there are many other details in connection with the modern system of Marine Sanitation which require elucidation, but which I cannot take up your time with to-night. I have merely attempted to give a rough general outline of the way in which things could be worked and I am well aware that the scheme needs fuller explanation. Such a plan could not be worked by us alone. It would necessarily require to be adopted by all the other British West Indian Colonies. Now, as most of them are more rabid quarantine than ourselves the question is: how could we succeed in obtaining their co-operation? It seems to me that in an important matter of this kind, where the regulations laid down in any given colony seriously affect vital interests in every other colony, and where these regulations are not the outcome of any medical or scientific reasoning but the product of individual prejudice, and trade considerations which vary in different places, we have a condition of things

in

in which the fact of our being Crown Colonies could for once be turned to advantage. We should, in fact, make an appeal to the Secretary of State for the Colonies and say:-

"Here we are in the West Indies practising quarantine pretty much as Venice did in the fourteenth century. No sooner does an epidemic break out in one Colony than she is boycotted and ~~blockaded~~ blockaded by all the others. If the epidemic only lasts long enough the unfortunate colony is ruined. We are all in the same boat, running the same risks. This Barbadian epidemic has been a terrible eye-opener. We no longer believe in our antediluvian system. It doesn't give any adequate protection and it ruins us. We want to adopt a modern system of marine sanitation, but being inexperienced we should first like to know whether such a thing is practicable in these parts. Send us out a ~~Port~~ ^{Public} Health Commission composed of experts in sanitation and preferably men who have been Port Health Officers. Let them visit all these Colonies, see the local conditions, take evidence, and report their opinion. If they think we can adopt a system based upon the present practice in the United Kingdom, then we beg you to issue an order to every British West Indian Government to do so at once".

once".

The abolition of quarantine would mark an epoch in the progress of civilization in the West Indies, and Trinidad should be eager and proud to take the lead in such a forward move. With the present ineffectual and insecure first line of defence removed, improved sanitation would follow as a matter of course. Our Medical officers and sanitary inspectors would become more vigilant and alert. The time that our legislators now spend in devising fresh ~~harsh~~ quarantine cruelties would be devoted to enacting new Public Health laws. By introducing a Building Ordinance and the compulsory notification of fevers and infectious diseases, "plague" spots would be brought to light and made to disappear. It is no use deluding ourselves into the belief that we are quite ~~as~~ terrified of epidemic disease as we appear to be. Indeed we have had ^{one} in our midst for the past six months and anybody studying the situation must be struck with the fact that far greater energy is being ^{spent} in futile attempts to show good cause to our neighbours why they should take no precautions against importing the infection from us than in serious endeavours on our part to stamp it out. When properly managed epidemics do not spread broadcast and kill the people ~~as~~ they used to do in the days gone by. It is the idea of quarantine which really terrorises us. What is true for us, is true for the other islands, and the abolition of quarantine would not only remove a great barrier

barrier from the path of free trade and commerce, but would also prove a blessing to the public health of the entire West Indies.. The change once made in the British West Indies, it is not improbable that the Home Government might at some convenient time arrange with the Governments of the foreign West Indian Colonies and the South and Central American Republics to recognize our system and give us reciprocal treatment. Such, gentlemen, are a few of the facts bearing upon this important question of quarantine which you have been kind enough to consider with me. It is a matter affecting our health and our wealth, two of the weightest factors governing everyday life. It affects the rich equally with the poor, and to all it should be a matter of interest. Since this paper was written some of the evils which I contemplated have come to pass, and the yellow flag has been hoisted against us throughout the West Indies. Somewhere it is written that "Men often die for fear of death". Of us it may be said that we have had ourselves quarantined for fear of quarantine. Had we been able to isolate the earliest cases of the disease now prevailing here, and carry out the other sanitary measures indicated, as well as prevent the continued influx of fresh cases from Venezuela without creating uneasiness in the neighbouring colonies and running the risk of quarantine, I can say without fear of contradiction that this epidemic would never have spread in the wild and formidable manner it has done. The influence of quarantine in

hampering

hampering the action of the Health Authorities, and in preventing them from having a free hand in carrying out of legitimate sanitary measures is one of the greatest curses of the system and should be sufficient to condemn it, and as there are good grounds for believing that the Government is seriously considering the question of getting out a medical expert from England to pronounce the final word on the nature of the disputed disease, perhaps it would be an opportune moment to secure the services of a Commission such as I have suggested, who could study locally the question of West Indian Quarantine and make such recommendations as may safeguard us one and all from a repetition of the disaster which has recently been experience in Barbadoes.

This lecture was reported in extenso in the local press and reproduced in Barbadoes and Antigua. In most of the other colonies it was freely quoted and discussed, generally in a favourable spirit. It was officially noticed by Sir Gerald Strickland, Governor of the Leeward Islands, now Governor of Tasmania who had it reprinted in pamphlet form, and circulated among the various local authorities in the British West Indies.

Two months later, a Commission appointed by Sir Frederic Hodgson, to inquire into the West Indian Quarantine system published its report, and in that document the views expressed in my lecture found ample support. In one of the principal clauses (4) the Commissioners stated that "In our opinion the present quarantine laws, ^{of an endeavour to exhaustively exclude,} rules and regulations of Barbadoes are the result so far as possible, all chances of the introduction into ^{this} island

island from abroad of infectious and contagious diseases, with special reference to Cholera, Plague, Yellow fever and Smallpox, the exigencies of trade and commerce being subordinated thereto. While extremely drastic and often almost paralyzing in the inconveniences and hindrances inflicted on commercial intercourse, they were founded on what was ^{formerly} considered necessary by the Medical profession, which ^{it} must be remembered, was not then in possession of the results of the valuable investigations since made into the manner in which quarantinable diseases are really spread. The laws under consideration err in the direction of excessive and unnecessary precautions, whilst if fully and rigidly worked they form an elaborate and formidable weapon of offence against the trade and commerce of other places, and especially neighbouring colonies. They also leave too little to the ^{care} discretion of the Health officers who are fettered by hard and fast rules and regulations as regards details", and in clause (5) they went on to say that "their effect has in our opinion been hampering to trade and often injurious to the interests of ships calling at the Port of Bridgetown, and the full and efficient working of them in all their severity, in many respects, as it is now shown, unnecessary severity, tends to call into existence a spirit of retaliation on the part of those neighbouring colonies which may be inconvenienced thereby. Their laws are similar to

and

and based on the same conclusions and policy as ours, and placed them also in possession of what was intended as a weapon of defence but which may also operate as one of offence". In conclusion they recommended the adoption of measures similar to those employed in England and the port of New York. There can be no doubt that this commission did excellent work and that it was mainly through its recommendations and the **perseverance** of Sir Frederic Hodgson that the Secretary of State for the Colonies issued instructions for holding the Sanitary Convention which under the guidance of Dr Theodore Thomson was instrumental in bringing about the abrogation of the reign of King Quarantine in the West Indies.

THEⁿ SMALL-POX EPIDEMIC.

SMALL-POX.

Before dealing with the controversy on the recent epidemic of small-pox, it will be necessary to say a few words regarding the disease itself. I would like to mention that what follows is not a collection of facts made up in the light of information acquired after the disease had been widely discussed in all its aspects, and authoritative opinion favourable to my contention finally accepted, but in reality an extended copy of notes made at an early stage of the controversy, and intended for publication in the British Medical Journal.

ORIGIN OF THE EPIDEMIC

Up to the time of the publication of a paper entitled "Varioloid Varicella in Trinidad" by Drs. Dickson and Lassalle in the autumn of 1903, it was generally believed that the five cases of the disease reported by me from No.45 Duncan street in Port of Spain, were the first to occur in the Colony. It certainly was a revelation to learn from the official report that cases had occurred at the St Ann's Lunatic Asylum as early as April 1902, and in various parts of the town all through the year until the alarm was raised in November. It is difficult to locate the source

source of infection of the early cases, but as it happened that a strict watch was kept over arrivals from Barbadoes, and no control exercised over those from the Spanish Main, at both of which places the disease existed in epidemic form, it is more probable that the latter was introduced from Venezuela. Certainly there was no doubt about it in respect to the Duncan street cases where two of the patients declared that shortly before their illness they had lodged some friends recently recovered from the disease who had arrived from Rio Caribe, a hamlet near to Carupano where the disease then existed ^{in epidemic form.} Other Venezuelan sea-ports were subsequently infected, and it is not unlikely that the majority of the cases imported have hailed from Yrapa and Guiria which are nearer to, and in daily communication with, Port of Spain, but it seems clearly enough established that the infection of the Duncan street cases, which were the first to be publicly heard of, is traceable to Rio Caribe.

HISTORY OF INDIVIDUAL CASES

In the majority of instances the patient does not know how he got the disease. Frequently there is a history of having visited someone who "suffered from the same thing," or of another case in the same house, or on the same premises. Not uncommonly persons occupying the same bed with a sufferer, either parent

parent or child, took the disease after a certain interval of time.

PERIOD OF INCUBATION

It was usually a difficult matter to fix the time at which infection took place. The general impression, however, which one formed from the statements of various patients was that the incubation period ranged somewhere between twelve and fourteen days. This was borne out in a few instances where there was a history of having once visited someone suffering from the disease, and after excluding other possible sources of infection for the purpose of arriving at an approximately correct result, the incubation certainly did not appear to be less than twelve, nor more than fourteen days

AGE INCIDENCE

From an analysis of 50 cases taken at random from the notes of 70 cases which at that time had come under my observation I found the average age at which the disease occurred to be 23.2 years. The oldest in the series was a man of 42, and the youngest a child of 4. The following table shows the period of maximum susceptibility to be between 25 and 30, and the minimum to be the 0-5 and 40 periods.

Table

Table 1

Showing incidence of the disease at the different age periods

0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	over 40	Total
2	3	7	6	11	12	1	6	2	50

It is interesting to note that when the Health officers compiled their statistics several months later as a result of an analysis of ^{we}our 4000 cases, although the figures varied, the proportions were similar to those which I obtained from my cases (vide Appendix Varioloid Varicella in Trinidad, Age Incidence p.4).

SYMPTOMS OF INVASION

The disease commences with what was usually described as a "bad feeling", followed by high temperature headache, pains all over the body, particularly in the joints and in the back, nausea or vomiting weakness in the knees, stiffness of the facial muscles, marked sleeplessness and in many cases, prostration. Not uncommonly there ^{were} ~~was~~ hallucinations of sight and hearing, or delirium, the latter sometimes taking a muttering form, and at other times a wild character. Of three cases which I have recorded, one

(a) was a child of six. His mother said "He was talking out of his head last night, jumping out of the bed, and wanting to fight everybody".

(b) A man, aged 42. His wife said he talks -----

lots

lots of nonsense to imaginary persons, and tells me to put out the people who are standing round his bed, when there's no one present but myself".

- (c) A man, aged 28, whose nurse told me "he looks quite terrified and shouts to me ^{to} put out an Chinaman whom he says is in the room, and has come to kill him". A day later this same patient in a state of frenzy attempted to commit suicide by cutting his throat with a razor, and had to be removed to Hospital.

In this stage which usually lasted from three to four days the patient's bowels were confined, and his tongue foul. The temperature not infrequently rose to 104 F or higher, and the symptoms as a whole were generally at their worst the first day or two after the onset. A very constant symptom at this stage was pain in the epigastrium, at times it was extremely severe and was the immediate cause for which the doctor was called in.

THE RASH

On the first appearance of the rash the severity of the pains diminished and the temperature either dropped to normal, or diminished two or three degrees subsequently falling to normal when the eruption was well established. As a rule the pains then ceased and the patient felt great relief, though from time to time cases were met with in which the backache ~~persist~~

persisted and a feeling of emptiness or uneasiness about the head was complained of. Usually the eruption appeared between the third and fourth day from the onset; in some instances as early as the second day, or as late as the fifth; - first on the face, wrists, and on the ^{and} ~~dorsum~~ palms of the hands, as minute papules, more or less cone-shaped, slightly raised above the surface of the skin and surrounded by a tiny red blush. They faded under firm pressure, but quickly re-appeared when released. Rapid application and removal of the pressure from the papules, continued for a few minutes, sensibly enlarged the area of the red blush, and by that means it was possible in a very short time to establish the true character of a minute and doubtful lesion. These lesions gradually increased in size and numbers for two or three days by which time in a typical case they were distributed all over the body, including the palms of the hand and the soles of the feet. Indeed they were rarely, if ever absent from these sites; certainly I never found them wanting even in cases where the total number of lesions on the body did not aggregate more than a dozen. In this stage the eruption was very itchy, and gave the skin a rough feel. In many cases especially those which in my experience subsequently turned out to be severe, the papules were larger than usual from the time of their first appearance; they presented a broad flattened surface and from the centre

centre of the lesion which was usually slightly raised above the rest of its surface, fine ridges radiated to the periphery giving the papule^a stellate appearance. These papules were hard to the touch, and left no doubt in one's mind as to their being deeply situated in the tissue of the skin. On the other hand they frequently aborted and dried up in this stage without going on to vesicular formation. About the third or fourth day the papules became vesicular. This transformation did not take place all at once in each separate lesion, but began in the apex of the peck which then showed a slight depression, and became darker in colour than the rest of the lesion. In ordinary cases the appearance at this stage was not unlike that sometimes presented by acne vulgaris. By the fifth or sixth day the vesicles were fully formed. In every case which came under my observation I noticed that their contents were turbid from the beginning, and never at any time clear like a recent water blister. In this stage the cuticle was usually transparent, and in many cases, especially on fair skins, and on the palms and soles, the ~~loc~~ loculation in the interior of the vesicles ^{was} ~~as~~ plainly visible. Around each vesicle there was an areola of inflammation clearly seen on the light coloured subjects, but with difficulty on the black ones.

Photo I



Trinidad smallpox.

Period of maturation. Photo taken a few hours before
death.

69

MATURATION

From the sixth day onwards, sometimes earlier if abortion did not take place at this stage, maturation commenced, and the contents of the vesicles became yellow, light in shade at first, but deeper as the process advanced. By the eighth or ninth day, they were mostly all yellow; some however were brown and contained a dark, sanious fluid. In one case, when the lesions ruptured, dark red blood oozed out instead of pus. This was a female, V. D. aet 37. I saw her on the tenth day of the rash, blood was oozing out from the pocks in quantities sufficiently serious to necessitate a change of garment two or three times a day. In spite of the exhibition of hæmostatic drugs these hæmorrhages continued for nearly a week after I first saw the case. Not infrequently the pustules contained a ^(strawcoloured) viscid, faintly fluid of the ^{consistency of} glycerinated calf lymph with whitish particles of flocculent matter ⁱⁿ suspension. ~~At the height of maturation the pustules~~. At the height of maturation the pustules differed in shape and size. Most commonly they were convex, but here and there concave ones were seen. These increased in number after the ninth or tenth day, until the majority became umbilicated. It was ^{not} uncommon to see small pustules or aborted vesicles side by side with large pustules, owing to the fact that some of the elements ran on to their fullest development, and others did not. In this stage the transparency

and

and the gloss of the cuticle diminished considerably, especially at the apex of the pustules which now became unilocular. Looking down upon their dome-shaped surfaces, one saw a dark central disc surrounded by a ring of lighter shaded cuticle.

After the eighth or ninth day, sometimes earlier sometimes later, the pustules began to rupture, and their contents escaped.

E DYSSICATION

The cuticle dried up in papery scabs which fell off leaving more or less circular patches, stained brown, with ragged edges which went on exfoliating for several days, sometimes for weeks. The centre of these macules was often depressed; frequently, however, especially on the face, the site of the lesion was marked by a raised wart-like exerescence. These growths, so-called "wart-pox", gave the face a rough and unsightly appearance. After some months they wore down to skin level, and in many cases absorption continued until a pit was left. Scabbing as a rule began first on the face which was usually in advance of the rest of the body throughout the entire course of the eruption. On the forehead, the bridge of the nose, the malar region and the external ears, the pustules often exuded thick bright yellow viscid matter which soon caked up into granular crusts, having a "stuck on" appearance, not unlike impetigo contagiosa. Frequently the pustules did not rupture at

Photo 2.



Francisco Camaldo, during the scabbing period.
Note the circular disc-like scabs and the pigmented spots
Duncan Street, case.

all, but their contents underwent absorption. The same thing often happened to the vesicles which dried up in that stage without becoming pustular. In these cases thick brown, sometimes black, circular, disc-like scabs were ^{left} ~~felt~~. These subsequently fell off in large numbers on the bed, and in each case exposed either an irregular pit surrounded by a small zone of discoloration, or more commonly a pigmented spot without any pitting; not infrequently one of the wart-like growths already described was left. The last mentioned result however, was almost exclusively confined to the face. The pocks persisted longest in the palms of the hands and soles of the feet where their inspissated contents were to be seen imbedded beneath the epidermis for weeks after desquamation was complete on the face. Frequently they did not rupture at all, and had to be dug out by the patients with a sharp instrument. In ordinary cases desquamation was complete in from four to five weeks after the appearance of the rash. ~~When~~ ~~however~~ In complicated cases the disease lasted longer. The period at which a case could be declared free from infection was often hastened by digging out the inspissated matter from the lesions in the palms and soles. During the stage of maturation, by pricking a hole in the base of the pustule, and drawing a needle firmly across it, the contents were partly extruded, and the walls collapsed. The lesions often appeared to be superficially situated on the skin, but in most cases this feature was more apparent than real, as

careful

Photo 3



Photo 4



Duncan street case - Maria Comez.

Stage of dessication.

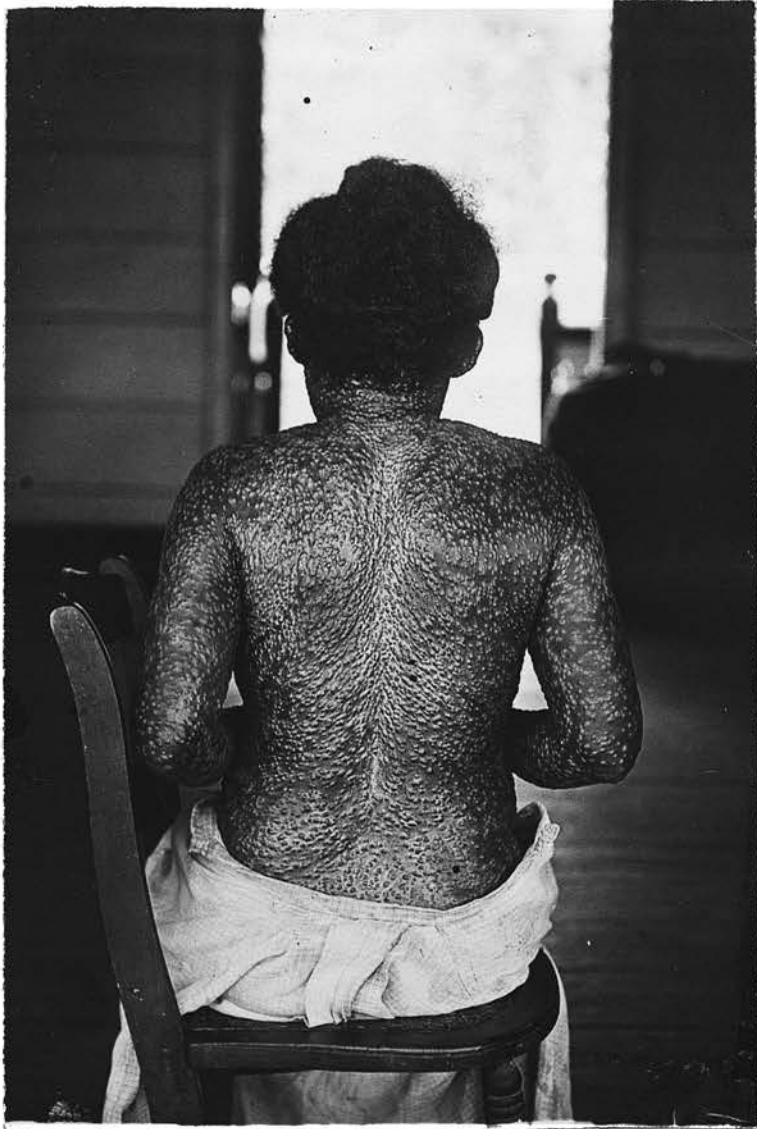
careful dissection of the cuticle, and gentle swabbing out of the contents readily showed the base of the pustule to be below the level of, and not on the same plane with, the surface of the skin

DISTRIBUTION OF THE RASH

The rash in the majority of cases appeared all over the body. In some cases hardly any space to stick a pin was left unaffected. More commonly it was discrete even where the lesions were distributed on all the regions of the body. A peculiar feature in these cases was that the pocks were ^{apparently} not dotted about ~~at random~~ but ^{were} distributed ~~at random~~ in groups of three and five which further took the shape of crescents and circles. In many cases this interesting point of difference between variola and varicella was very marked (see photos 13.14) As a rule the parts most affected were the face, the upper and lower extremities, the dorsal surface of the trunk, and the hypochondriac and epigastric regions of the abdomen. The eruption was generally sparse ^s on the neck, the front of the thorax and the lower division of the ~~ab-~~domen. The arms, particularly the extensor surfaces, were usually spotted like the back of the trunk. Where the number of lesions on the body was not great, the arms ^a always come in for a fair share of the whole. It was often noticeable that when the face was thickly peppered and the distribution on the rest of the body sparse,

the

Photo 5-



Trinidad Smallpox.

hardly any
"Sometimes there was ~~no~~ space left unaffected to
stick a pin in".

Photo 6



Trinidad Smallpox.

Front view of preceding case.

Photo 7.



Trinidad Smallpox
To show typical distribution of rash.

the arms exhibited a larger relative number of pocks per square inch of surface than the trunk. Indeed in several cases the distribution was practically confined to the face and limbs with hardly any spots on the trunk. Generally the condition of the legs was very much like the arms, if anything, perhaps, a little less peppered. The palms of the hand, ~~the~~ between the fingers, and the soles of the feet were invariably affected. In many instances of mild discrete cases where the aggregate number of lesions on the body was not more than twelve, the palms and the soles always came in for a small share of the whole. Not infrequently the pocks were confluent on these sites. The feet and hands were on that account often ~~swollen~~ to a large size, causing great, throbbing pain, inability to stand, and sleeplessness. It was not an uncommon thing to see a broad mass of the bright yellow pus beneath the transparent layers of the ~~epidermis~~^{epi^{der}mis} of the palms and soles which, as the disease progressed, became separated from the thin skin in large patches, and occasionally en bloc like a glove or a slipper. It frequently happened that patients feeling quite well, otherwise, were unable to get up and walk even in the third week of the disease on account of their swollen and painful feet. In the majority of discrete cases there was no appreciable oedema of the tissues between the pocks, but every now and then a confluent or semi-confluent case was met with in which the face was tumefied and

disfigured

Photo 8



Trinidad Smallpox.

To show typical distribution of rash.

Photo 9



Trinidad Smallpox.

To show distribution of rash on face and limbs - Comparative absence on thorax.

disfigured, almost presenting the appearance of a corpse which had been immersed in water for several days. In these cases the eyelids were swollen and closed, the eyes themselves inflamed and red, sometimes the lesions appeared on the conjunctiva and the cornea. In one or two cases treated in hospital corneal ulceration, followed by total destruction of sight, occurred. Not infrequently, and especially in the confluent cases, the lesions appeared on the gums, the mucous membrane of the lips and cheeks, hard and soft palate, nostrils and fauces, sometimes causing sore throat, at other times impeding deglutition or respiration. Patients posed in the posture suggested by Dr McConnell Wanklyn in the vaccination number of the British Medical Journal (July 5th, 1902 p.48) viz, "sitting up in bed, stripped to the waist, with hands crossed, backs outwards", exhibited in a striking manner the abundance of the rash on the face wrists and hands (and also on the feet as is shown in some of the accompanying photographs) with the comparatively light distribution on the trunk.

SECONDARY FEVER

In most of the cases, especially the mild discrete ones, there was no further rise of temperature after the rash was well established. In the semi-confluent and severe cases, however, the temperature often failed to touch the normal when the rash came out, and swung between 90° F and 100° F or so, until the stage of suppuration, when it rose again, frequently assuming a

septicæmic

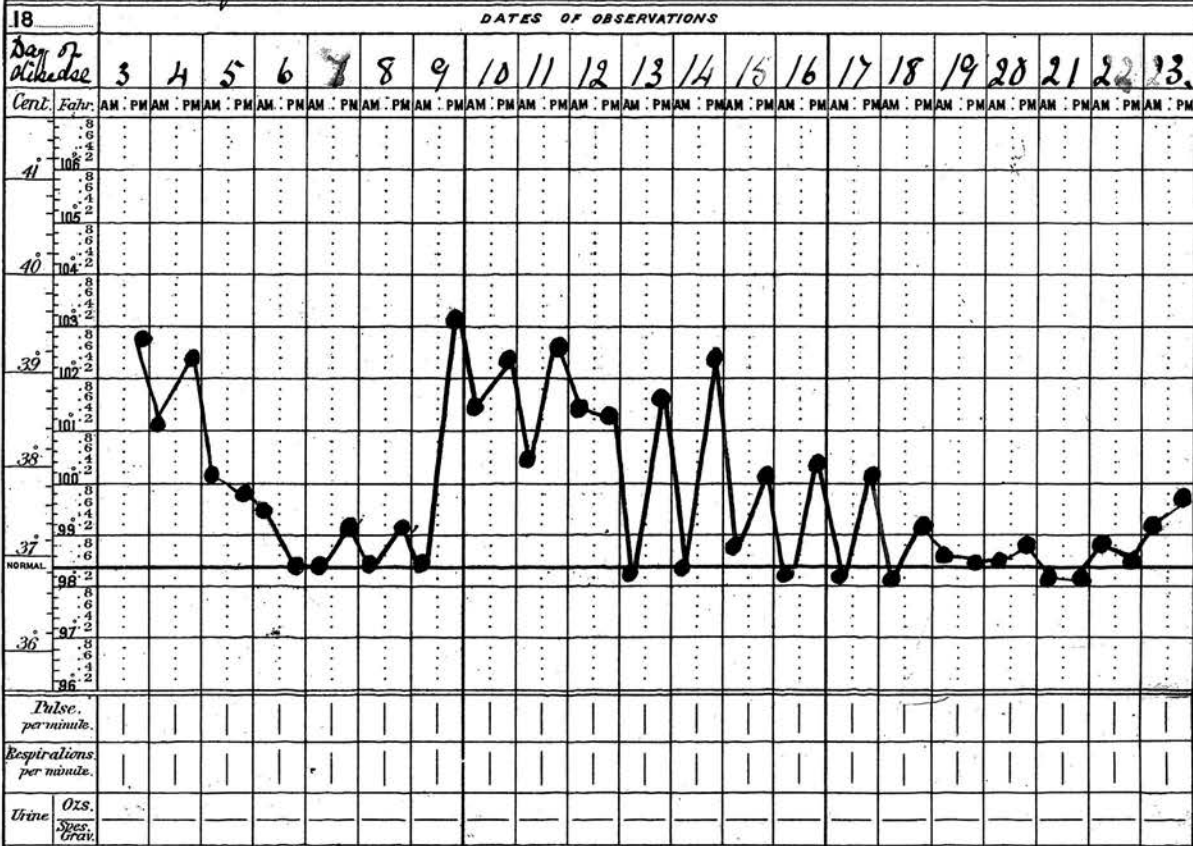
septic^{emic} character, perhaps falling to 99°F in the morning and going up to 101°F or 102°F or more at nights. In one instance I found the temperature as high as 103°F on the 10th day. While it was a difficult matter under the stress of general practice to take an accurate record of the morning and evening temperatures of my cases, some of which I could not visit every day, and others only coming under my care at an advanced stage of the disease, still by systematically taking ~~as~~ their temperature whenever I visited the cases, I obtained sufficient evidence to convince me that secondary fever was a factor in the disease, and was not^{so} frequently absent as was generally believed. Through the kindness of Dr Scheult I am able to present some charts of cases treated in hospital showing the rise of temperature in the maturation stage of the disease

COMPLICATIONS AND SEQUELAE

In the period of invasion, and also when the rash was making its appearance, the most important complications were intense headache and backache, vomiting, severe pain in the epigastrium, costiveness, insomnia, restlessness or delirium, and, occasionally, convulsions^{already referred to} in children. In one case, the patient attempted his life with an old razor. In many instances these symptoms were so severe that strong men were completely prostrated and complained that they^{never} had such a bad time in their lives before, "even during the hot stage of
an

TEMPERATURE CHART by Mr Geo. Chas. COLES, M.R.C.S.

NAME. <i>F. B. C.</i>	RESIDENCE.	AGE. <i>22</i>	SEX. <i>Male</i>	OCCUPATION. <i>Student</i>
DISEASE. <i>Smallpox.</i>		<i>Severe Discrete.</i>		



REMARKS. Unwae. Invasion July 9th 03 Rash on face July 13th. Copious everywhere except on chest. Uremic at first albuminuria but cleared up on July 22nd. Delirium July 16th & 16th. Vesicles on palate, and much prostration in this case. Developed abscesses and spind-pits. Admitted July 13. On 5 changed Aug. 15

A.E. Pearce, L^{td}, 50, Rupert Street, London, W.

Chart I showing that secondary fever did occur.

TEMPERATURE CHART by Mr Geo. Chas. COLES, M.R.C.S.

NAME. <i>W. S.</i>		RESIDENCE.		AGE. <i>27</i>	SEX. <i>m</i>	OCCUPATION. <i>labourer</i>																							
DISEASE. <i>Scarlet fever.</i>		<i>Confluent</i>																											
1891		DATES OF OBSERVATIONS																											
<i>Day of week</i>		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Cent.	Fahr.	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
41	106																												
40	104																												
39	102																												
38	100																												
37	98																												
NORMAL	96																												
Pulse. per minute.																													
Respirations per minute.																													
Urine	Ozs.																												
	Spec. Grav.																												
REMARKS.		<i>no vaccination marks. Infection April 19, Peak April 22nd. Eruption capricious everywhere - confluent on face, numerous vesicles on glans penis, perineum and pharynx. Urine albuminous, offensive smell from cascophis. Eruption of pustules. Toe nails dropped out, skin of sides exfoliated en masse.</i>																											

ENT-ST. HALL

A.E. Pearce, L.R.C.S., 80, Rupert Street, London, W.

Chart II showing that secondary fever did occur.

TEMPERATURE CHART by Mr. Geo. COLES, M.R.C.S.

NAME.	J. B.		RESIDENCE.			AGE.	23	SEX.	Male	OCCUPATION.	Scavenger.													
DISEASE.	Smallpox - Confluent.																							
18	DATES OF OBSERVATIONS																							
Days of Disease	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
Cent. Fahr.	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
41																								
40																								
39																								
38																								
37																								
NORMAL																								
Pulse.																								
Respirations																								
Urine																								
Ozs.																								
Sp. Grav.																								
REMARKS.	<p>Unvac. In vac. 18/7/03. Rash 20/7/03. Crises & confluent. Some albuminous at first - but cleared up later. Umbilication of vesicles well marked in this case. Much oedema of face. Abscesses developed during convalescence.</p> <p>Admitted 20/7/03 Discharged 31/8/03</p>																							

A.E. Pearce, L.R.S., 50, Rupert Street, London, W.

ENT-STAN-HALL

Chart showing that secondary fever did occur.

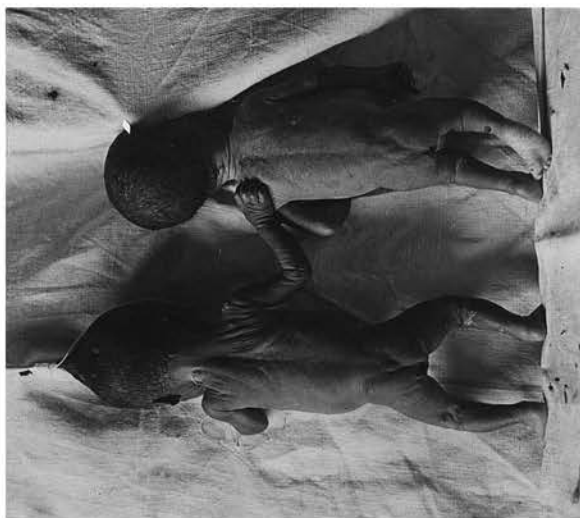
TEMPERATURE CHART by Mr Geo. Chas. COLES, M.R.C.S.

NAME. <u>G. E.</u>		RESIDENCE.		AGE. <u>17</u>	SEX. <u>Male</u>	OCCUPATION. <u>Farmer</u>															
DISEASE. <u>Pomallpox.</u>		<u>Severe disorche</u>																			
<u>18</u>	DATES OF OBSERVATIONS																				
<u>June</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>July</u>
Cent.	Fahr.	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM	AM : PM
Pulse, per minute.																					
Respirations per minute.																					
Urine	Ozs.																				
	Spc. Grav.																				
REMARKS.																					
<p>Vac. in infancy and showed two good marks. Invasion June 8th 03. Rash, first on face, June 11th. Distributed all over body except on chest & abdomen. Lips, palate and prepuce much affected. Boils on legs during convalescence. Admitted June 11th - Discharged July 15th.</p>																					

Chart IV, To show that Secondary
fever did occur.

an attack of malarial fever", - a disease, by the way, for which the onset of smallpox was often mistaken. In other cases the symptoms were all mild and the patient seemed comfortable enough. During the period of maturation and dessication, the most important complication in my experience was persistent insomnia. Nearly every patient complained of it, and not only that, but it resisted ordinary doses of hypnotics, and I usually found it necessary to administer comparatively large doses of the Bromides and Chloral in order to get any good effect. Delirium, usually of the low muttering kind was not infrequently associated with the sleeplessness. Sometimes the delirious patient would insist in getting out of his bed, particularly in the middle of the night, and struggle violently with those who attempted to restrain him. This often happened with a normal temperature. Very commonly these patients had shivering fits, and complained of feeling cold "right into their bones." This was a very common feature of the cases which I saw at the Pelican Island in Barbadoes. There they often had severe fits of ague, bodies huddled together and teeth chattering as if in the cold stage of an attack of malaria. Pains and swelling of the joints were also very frequent, the shoulder, knee and ankle being commonly affected. These complications were ^{very} marked in one of the Duncan street cases. Whilst costiveness was usually a feature of an early stage of the disease, diarrhoea,

Photo 10



Twins born with the specific lesions of smallpox on their body
(Photo lent by Dr Scheult.)

in some cases of a serious and intractable nature,

threatening to carry off the patient, often supervened during the second and third weeks. At this stage furunculi and small abscesses, more particularly on the back, the legs and the face were a common and disagreeable complication. They were usually painful and in many cases accompanied with pyrexia. Conjunctivitis and keratitis often occurred early in the course of the

Corneal ulcer, followed by perforation with loss of sight in one or two instances, was occasionally observed. I

got no chance to study the effects of the disease upon pregnancy among my own cases, but Dr Scheult who had exceptional opportunities for doing so states in his thesis p.64 "It would appear that the disorder in the

initial and early eruptive stage had little or no immediate effect upon pregnancy. It was usually four to

twelve weeks after the mother had developed the prodromal symptoms of the disease that gestation was interrupted

in its course. This was due either to the death of the foetus caused by an attack of the disease in utero, or

to fatty degeneration of the placenta. In the majority of instances pregnancy ran a normal and uninterrupted

course". I may mention that Dr Scheult very kindly

showed me through the smallpox wards on several occasions

when cases of special interest cropped up. Among other

features of interest I saw two male foetuses of between six and seven months on whose bodies a fair number of

Photo 11



Demerara Smallpox.

To show fine "worm-eaten like" pitting

pocks was distributed. These twins were delivered twenty five days after the onset of the disease in the mother, in whom, at the time of giving birth, desquamation was taking place. In the majority of cases there was very little pitting to be seen when desquamation was complete, even after a severe attack of the disease; where it did occur it was usually confined to the face and was of a fine quality, mostly irregular in shape, ~~worm-eaten~~ worm-eaten like, and not very deep. A more common sequela was the presence of pigmented spots on the sites of the lesions whether pitting resulted or not. These stains as they appeared on fair skins were of a pinkish hue at the centre, the colour deepening almost to brown towards the periphery. In the case of black subjects they appeared brown. In some instances the maculae almost entirely disappeared after a few months, in others they have been persistent, and up to the present time I not uncommonly observe them in persons whom I am called up^{on} to examine. While the ~~the~~ scars have in many cases become less noticeable than at first, they have, on the whole, every appearance of being permanent

EFFECT OF VACCINATION

In my experience the disease occurred exclusively among unvaccinated persons, and those in whom the protection afforded by vaccination had lapsed through time. In not a single instance did I find anyone suffering from the disease who could show evidence of having been efficiently and sufficiently vaccinated within the pre-

preceding four or five years. The following table will show at an glance the age incidence among the unvaccinated of the fifty cases which I have already elsewhere referred to

Table II

Showing incidence of the disease on vaccinated and unvaccinated at the different age periods.

Ages	Number of cases at different age periods	Recently vaccinated i.e. within last five years	Vaccinated in infancy or more than five years ago	Unvaccinated	Vaccinated after contact	Vaccinated after the completion of desquamation	
						Successfully	Unsuccessfully
0 - 5	2	-	-	1	I*	-	1
5 - 10	3	--	-	2	I+	-	-
10 - 15	7	-	1	6	-	-	5
15 - 20	6	-	1	5	-	-	2
20 - 25	11	-	5	6	-	-	1
25 - 30	12	-	5	7	--	-	-
30 - 35	1	-	1	0	-	-	1
35 - 40	6	-	3	3	-	-	-
40 - +	2	-	1	1	-	-	-
Total	50	-	17	31	2	-	10 #

* The rash appeared seven days after vaccination

+ Rash appeared eight days after vaccination

These cases were all vaccinated within a month of the completion of desquamation.

It will ~~h~~ be seen that the maximum susceptibility both among vaccinated and unvaccinated was at the 20-30 age period. Curiously enough in the paper on "Varioloid Varicella" by Drs Lassalle and Dickson quoted above, p.7. the same result is recorded; and, further, in an analysis of 419 consecutive cases treated in hospital 254 were found to be unvaccinated and 165 vaccinated. By reducing the total number of these cases to fifty, namely the basis upon which my calculations were made, the proportion of vaccinated and unvaccinated would be approximately represented by 19.06 and 30.3 respectively, as against 17 and 31 in my table. Two cases were vaccinated after infection, and were ^{not} included in the calculation. As the ~~posi~~itive influence of vaccination on the disease was at first denied, I cannot lay too great stress on the error of the ^{is} view. In no case whatever did I find any exception to the fact that recent successful vaccination protected against attack by the disease. Indeed it was truly remarkable with what unerring precision the disease would select a single unvaccinated member in a household and pass by all the protected ones. I observed this in private houses, and also in barracks with six, seven, or more cases in different apartments, during which time little boys and girls of all ages belonging to separate families would be running about the yard, and in and out of the houses, but not in one single instance did the disease occur to my knowledge in any of those who had been vaccinated less than four or five years before. Conversely I failed

in ten instances at the time the table was compiled, and in many more afterwards to successfully vaccinate previously unvaccinated persons who had contracted the disease. In a few instances there was a peculiar reaction to vaccination after recovery from the disease.

Such for example was the case of Rosanna P: I vaccinated her on the 20th March, four weeks after desquamation appeared complete. Eight days afterwards I examined the arm and there was no sign of any reaction whatever, and I recorded the case as being unsuccessful, the control used on the occasion having taken typically. But on the 7th April, about 17 days after vaccination she came and showed me a purplish vesicle, the size of a large pea on the site of one of the four insertions which I had made. In appearance it was not unlike a small hemorrhoid. I pricked it and some clear viscid fluid oozed out. There was no inflammation around it and it caused no pain, neither was any feverish reaction associated with it. Strangely enough a similar thing happened with another patient of mine who didn't have the smallpox at all. This one was a ^{Chinaman} ~~woman~~ aet.

59. He was vaccinated in infancy and had two faint marks. I re-vaccinated him on March 27th. Eight days afterwards I visited him there were no signs of any reaction. On the 11th April, fifteen days after the operation he came and showed me a vesicle similar to that of R.P. on the site of one of the insertions. He said he had noticed it three days before. The same

viscid

viscid fluid exuded when I pricked the vesicle. No public vaccinator could by any stretch of the imagination ^{have} recorded this reaction as a successful vaccination. Another peculiarity which came under my observation was what appeared to be a recrudescence of the symptoms of invasion followed by a fresh eruption in a patient who was ~~a~~ already in the third week of the disease, and in the stage of dessication. I refer to the case of a woman, L.D. Whilst in the eruptive stage of the disease she gave birth to a child at term. I vaccinated the latter successfully, immediately after delivery, and it did not subsequently take the disease. During the third week after invasion and whilst the old scabs were still adhering to her body, the mother suddenly had an attack of fever which lasted for one day and a fresh crop of papules appeared in between the old lesions. Some of them aborted, but a good many went on to maturity. How she became as it were recharged with the poison is not an easy matter to explain. I merely wish to record the fact, and at the same time to state that curious as it was, it did not appear to me to be a reason why the diagnosis of smallpox should be negatived as many medical men who saw the case were inclined to do. Drs Dickson and Lassalle, loc. cit., p.3., have reported that during the epidemic twelve cases of second attacks, - occurring from one to seven months after complete recovery from the first attack, - came under their notice. The symptoms of invasion, the character

of

of the eruption and the resulting maculae were, they state, similar in both attacks, and of the same nature as those of other cases of the disease . In a small handbook entitled "A concise history of smallpox and vaccination in Europe" by E.T. Edwardes the author replies affirmatively to the question "Can the same person have smallpox twice ?" But he qualifies his statement by introducing a limit of years between the attacks. On the other hand Dr Grossheim out of 22,641 cases of smallpox treated in various military hospitals had met a case in which a man suffered from a light form of variola, three months after the first attack. Wunderlich is also quoted to have seen six cases of second attacks in 1727 cases in Leipsig, and of these one occurred during the same epidemic. It will be seen, therefore, that while such cases are ~~rare~~ they are not ~~known~~ unknown, and what perhaps is more striking in regard to the Trinidad cases is that they should have occurred ^{with} ~~in~~ such comparative ~~ex~~ frequency, not that they should have occurred at all. In the case of re-infection, or rather recrudescence, which came under my observation, - (for the patient had not yet recovered from the first attack,) - the old scabs were still adherent when the new eruption came out. I removed more than a dozen of them (old scabs) and beneath each one there was a tiny drop of clear viscid fluid. Whether the aggregate quantity of this variolous exudation

exudation distributed all over her body and favoured, perhaps by the puerperal condition, was enough, as it were, to re-variolate the patient is, of course, only a matter of conjecture; certainly as in Grossheim's case, the symptoms of the fresh attack were much milder than those of the original ones. As regards vaccination after the attack by the disease, Drs Dickson and Lassalle have recorded 15 instances of successful vaccination out of 185 convalescents operated upon. "It is worthy of note" they remark "that in three of these cases vaccination performed immediately on recovery from the disease was unsuccessful, but gave good vesicles four or five weeks later". Of vaccinated persons who contracted the disease they recorded four cases as having occurred within one year of vaccination, but putting aside the question of impotent lymph, and insufficient vaccination, and individual idiosyncrasies, they are interesting as peculiarities which emphasized the irregular character of the epidemic without detracting much from its principal features

SEX DISTRIBUTION

In their official report the Health officers do not make any reference ^{to} of the sex distribution of the 4029 recorded cases. Personally more females came under my care than ~~to~~ males; but of 564 cases treated in hospital, Dr Scheult recorded that 352 were ~~to~~ males and 212 females

females. Whether any fixed conclusion can be drawn from these figures is a matter of doubt, for removal to hospital was not compulsory except when the domestic surroundings were particularly bad, and, in any case, men were more easily prevailed upon to go to hospital than women.

RACE INFLUENCE

The brunt of the disease fell upon the native negro population. It was noticed at first that the East Indian coolies of which there are eighty or ninety thousand in this colony were peculiarly exempt, and also that the disease did not occur among the white colonists or well-to-do ~~creoles~~ ^{creoles}. It was therefore concluded by many that it was a filth disease, only affecting those who lived in poor and squalid surroundings. Certainly it was in accordance with previously recorded facts that the negro population should show the greatest susceptibility, but while the race factor must have had some influence in determining attacks by the disease, later experience proved that the whole question of immunity hinged on that of vaccination. The apparent ⁱⁿ susceptibility of the coolies was found to be due to the fact that they are a well-vaccinated class of people. The same thing holds good for the whites and the other better class residents amongst whom, by way of providing exceptions to prove the rule, a fair sprinkling of cases occurred before the end of the epidemic. In fact the first death certified as smallpox in Port of Spain was that of an

adult

adult white of independent means. Whilst therefore it is probable that the whites were not ^{so} susceptible to the contagion as the negroes and others, there was ample evidence to show that no race was immune to attack.

INFLUENCE OF SEASON

In Trinidad there are two seasons, the dry and the wet. The former begins in January and ends in May; the rest of the year is the wet season. During the recent epidemic the dry weather between January and May favoured the spread of the disease which obtained its maximum in the latter month. It happened that during the month of March owing to some friction between the Town Commissioners and the Director of Public Works regarding the supply of water for flushing the street gutters, the Governor appointed a Commission of Medical men composed of the Surgeon General, Drs Dickson and Lassalle and myself to enquire into the matter, and report whether dry sweeping was preferable ^{to} ~~of~~ flushing with water. The influence of the dry season in spreading the disease was so much appreciated by the Commission that we used the fact as one of the principal ^{arguments} ~~reasons~~ against the dry ~~season~~ sweeping, and reported accordingly. The reduction in the number of the cases notified after the rainy season had set in was very remarkable, falling from 1123 in May, to 826 in June, and 329 in July. This reduction was steadily maintained during the rest of the year until the epidemic finally ceased

in the following January. It must be added, however, that vaccination was extensively carried out during these latter months

MORTALITY

The extremely low death rate resulting from the disease was one of the most remarkable features of the epidemic. It is safe to say that even if the eruption bore only a distant likeness to that disease, nothing would ^{have} more quickly impressed the people that it was smallpox than a high death rate. On the other hand the most classical clinical pictures, unaccompanied by mortality, were lost on those who had been through previous epidemics, or who entertained preconceived ideas of what smallpox ought to be, and it became almost a matter of impossibility to convince them that an epidemic which caused no increased pressure of work among the local undertakers was one of true variola. Of 564 cases treated by Dr Scheult at the isolation hospital 13 died, and of these one was a typical haemorrhagic case. The number of deaths recorded by the Health officer during the epidemic was 18^{*} out of a total of 4029 cases, giving a case mortality of .44 per cent. This of course was a phenomenally low death rate, and quite unlike what was experienced here on previous occasions. In the epidemic of 1871, for example, the death rate in Trinidad was 19%. Whether local conditions of soil

and

* Before the close of the epidemic the number of deaths increased to 28, and the recorded cases to 5154.

and ~~the~~ climate have been ~~a~~ factors in keeping down the mortality during the epidemic under review is a difficult matter to decide. Certainly in Barbadoes where the same type of disease existed, the mortality was as high as 3 per cent. On the other hand from a total of 1821 cases reported in Demerara, 1434 of which were treated in hospital, 14 died, thus yielding a death rate of 0.76 per cent. Lastly in Jamaica. where the outbreak was less widespread, there appears from the published officials reports to have been only three deaths attributable to the disease from a total of 56 cases or a death rate of 5.3 per cent. A good deal has been written and might still be written in explanation, of the reason why the death rate is high at one time in certain epidemic diseases, and low at another time, or in another place, or among another people, but it is not my purpose to dwell upon that in this brief sketch. It is only necessary for me to point out that medical public opinion has for several years been ~~repeatedly~~ prepared for these vagaries of smallpox which, coming as a wonder from the United States, ~~that~~ land of marvel^s, and Canada, have in course of time made themselves familiar to epidemiologists in the United Kindom where not only the "Cambridge disease" has proved an object lesson of the mild form in which smallpox may sometimes appear, but where week after week the reports of Health officers, in various parts of the country chronicle a decreasing mortality rate in local outbreaks of smallpox such perhaps as was never experienced before. In an epidemic ----

epidemic of what appears to have been a similar type of disease to that recently prevalent^a in the West Indies which occurred in the United States in 1901, Dr Montizambert stated that the death rate was probably below 1.31% (vide "Notes on a mild Type of Smallpox" B.M.J. May 11th 1901, p.1134). On page 821 of the same journal published in September 21st, 1901, reference is made to the disease under the heading of "A Sport of smallpox," and a paper on the subject by Dr Heman Spalding, Chief Medical Inspector of the Health Department of Chicago is referred to. During the Trinidad epidemic I sent photographs of some of my cases to Dr Montizambert and Dr Spalding, accompanied by a short clinical description of the disease. Both of these authorities replied that they had no doubt in their minds that the photographs represented cases of smallpox, and so convinced was Dr Spalding of the fact that he requested my permission to reproduce some of the photographs in a work on smallpox which he was then about to publish "Wherever the disease has occurred in that mild form", said Dr Spalding, "the same disputes have arisen regarding its identity, but the invariable result has been to acknowledge it as true smallpox". Since the cessation of the epidemic in the West Indies, a similar type of the disease has occurred in Cape Colony and was described by Dr W.E. De Kote under the name of "Amaas". The conclusion arrived at was that ~~the~~ Amaas was ~~a~~ "smallpox mitigated by

by some undermined factor or factors, but still small-pox."

DIAGNOSIS

There were several irregularities in the disease which tended to make the diagnosis difficult to those who were not prepared to accept ^{Smallpox} ~~the former~~ in any other than its ~~vul~~ virulent form. These were principally the mild symptoms of invasion in many cases, the frequency with which abortive attacks occurred in unvaccinated children or side by side with those suffering from severe attacks; the remarkable absence of prostration and the mildness or absence of constitutional symptoms in many cases exhibit^{ing} abundant cutaneous lesions; the low death rate and apparent lack of virulence of the materies morbi, shown by the frequency with which unvaccinated persons exposed to the disease escaped infection. It was also observed in many cases that adults vaccinated in infancy were severely attacked, while others who had never been vaccinated at all were only mildly affected. It is to be remarked, however, that these features too frequently obscured the broad fact that the disease only attacked those unprotected by recent vaccination. Initial rashes were not noticed if ever present, but the invasion was typical of small-pox in most cases, although in some instances not unnaturally in a malarial country - one was misled into attributing the symptoms, particularly where there was severe headache, vomiting and backache and a high temperature

temperature to the ~~hot stage~~ ^{onset} of an attack of malaria. The failure of quinine to ~~relieve~~ ^{relieve} the symptoms, and the appearance of the rash in due course cleared up any doubts. The marked sleeplessness, resisting hypnotics, was often a useful guide leading to an early diagnosis of ~~variola~~. The average age at which the disease occurred, viz 23.2 years was unfavourable to ^a diagnosis of varicella which is chiefly a disease ^{of} ~~in~~ children. Vaccination being compulsory in Trinidad at or before the age of three months, and having been so for many years, the great susceptibility at the 20-30 age period coincided with what has been the usual experience in vaccinated but not ~~re~~ re-vaccinated communities. The seat of election of the rash and its greater relative distribution on the face and limbs, and its constant presence on the dorsum of the hands and palms and soles, rather ~~than~~ on the trunk, the physical character of the papules and vesicles, the latter being turbid from the beginning with a thick cuticle showing that they originated deep down in the tissues of the skin, served to distinguish those elements from the more fragile vesicle of varicella with its clear blister-like contents. And so also did the longer period of maturation, and the characteristic arrangement of the pocks in threes and fives, and in circles and crescents (see ¹ ~~Cot~~ ^{Cot} ~~and~~ ^{and} ~~'s~~ ^{'s} Dictionary of Practical Medicine, vol.3.p.811 sec.18) The longer course of the disease, the circular disc-like scabs in the stage dessication, the desquamation beginning

beginning first on the face and finishing last on the palms of the hand and soles of feet all pointed to a diagnosis of smallpox, as also did the occurrence though not very commonly of secondary fever, and in many cases of ~~di~~ delirium during the maturation stage. Pitting though not the rule was extremely marked in many cases, and though the mortality was extremely low it would be difficult to get over the evidence of foetuses infected in utero, and born with the specific cutaneous lesions, and again of the ~~rapidly~~ rapidly fatal haemorrhagic case which occurred in hospital. The history of the disease in its relation to vaccination is conclusive. It attacked only those who were ^{un}protected by recent vaccination. It never affected persons recently and sufficiently vaccinated, and previously unvaccinated persons who contracted the disease could not, with rare exceptions, and somewhat inconclusively, be successfully vaccinated.

INOCULATION

Owing to the fact that the disease was at first declared by the local Health Department to be simple varicella, a name which after some months was replaced by "Varioloid Varicella", I undertook the inoculation of a monkey with matter taken from one of the hospital cases with the view of demonstrating that the term varicella was altogether misapplied in regard to the disease. The results were entirely successful, and I attach hereto a copy of a short letter on the subject which

THE TRINIDAD EPIDEMIC.

To the Editors of THE LANCET.

SIRS,—With reference to the controversy regarding the true nature of the epidemic prevailing in certain parts of the West Indies and alleged in many of the islands to be chicken-pox, I inoculated a monkey with variolous matter taken from a case of so-called varicella at the Colonial Hospital. Four insertions were made by a series of cross scratches as in ordinary vaccination, two being with matter from vesicles six days old and two from vesicles of the seventh day. Four days later there was a distinct raised papule surrounded by a zone of inflammation at the site of each insertion. About the sixth day (the day on which the photograph was taken) vesiculation, though not very perfect, was apparent and scabbing commenced. As it is well agreed that chicken-pox is not an inoculable disease it is to be hoped that in view of the success of this simple experiment the last has been heard, among medical men, at any rate, of the term "varicella" in connexion with the present outbreak of small-pox in the West Indies.

I am, Sirs, yours faithfully,

GEORGE H. MASSON, M.D., B.Sc., M.R.C.P. Edin.

Port of Spain, Trinidad, B.W.I., July 31st, 1903.



** Dr. Masson incloses a photograph of the monkey showing the vesicles very clearly.—ED. L.



Variolated Monkey.

Photo 12

which was published in the "Lancet" at the time. In spite therefore of the exceptional cases mentioned in the report on "Varioloid Varicella" in Trinidad, the evidence appears to be conclusive that the recent epidemic in Trinidad and other parts of the West Indies was one of smallpox.



THE CONTROVERSY.

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Bearing in mind the uncertain protection afforded by the enforcement of quarantine, it was generally feared that the epidemic of smallpox which had broken out in Barbadoes during the summer of 1902 would sooner or later spread to Trinidad. This feeling was amply justified before the end of the year when, on November 8th, I discovered five persons suffering from the disease at No.45, Duncan street, in Port of Spain, the capital city of the island. The infected house was what is known locally as a "barrack" and consisted of a one storey building divided laterally into five contiguous apartments, each one being further sub-divided into three rooms, a parlour facing the street, a middle bed-room, and a back dining room overlooking the yard which communicated directly with the street by means of a gate at the ^{on} ~~south~~ end of the barrack.

The first patient was B.G. a young woman of 22 whom I found lying on a sofa in the parlour quite naked except for a thin muslin cloth loosely spread over her body, which was covered with a vesico-pustular eruption. Her face was swollen to disfigurement, and her eyes nearly closed up and discharging muco-purulent matter. Several characteristic lesions were present on the palms of her hands, and the soles of her feet ~~which~~ were swollen and painful. In the next room I came upon the second case, a man F.G. aged 37, the brother of B.G. lying in bed and covered from head to foot with an eruption

similar

similar in nature to -----
 the previous case, but apparently in a more advanced stage. The lesions on his face had already begun to scab, but on the trunk and limbs they were purulent, some tense and convex, others depressed or umbilicated. The eruption was present on the palms of his hands and soles of his feet, the latter being much swollen. Both patients complained of great sleeplessness. The man said he had been vaccinated in infancy, the woman never; in neither case were there any marks to be seen. ~~When~~
 On enquiry I found the wife of F.G. aet 34, was in the third room room with an eruption on her body. She had a few vesicles ^{to} distributed over her face, trunk and limbs. The palms of her hand and soles of her feet were also affected.. In her case the disease was evidently in a much earlier stage than the two others. She had beside her an unvaccinated infant of 9 months. The child was apparently well at the time, and was vaccinated on the following day. Five days later, after a preliminary attack of fever, a rash similar to that of the others appeared on its body. In the next apartment but one to that occupied by the other cases, I found two women L.G aet 18, and M.G. aet 28, both unvaccinated, and covered with lesions of a character similar to those which I had just seen. It happened that the sufferers were all Venezuelans, and while I failed to get any evidence connecting them with possible infection from Barbadoes, I was told they had recently

accommodated

accommodated some friends from Rio Caribe, a hamlet on the coast of the Spanish main not far from Carupano, and that a similar disease was epidemic at both places. One of their relatives, they said, had had it very badly, but they did not think it was smallpox for on falling ill he had placed a loaded revolver under his pillow and sent for a Medical man with the avowed intention of committing suicide if he were told that he was suffering from smallpox. Happily for his friends, the good doctor assured him that his complaint was nothing more deadly than Chicken-pox, with the result that the desperate sufferer gave up his weapon and lived to tell the tale. Whether the doctor's diagnosis was influenced by the sight of the revolver's muzzle peeping from beneath the pillow, or what would have been his medico-legal responsibilities under Venezuelan laws if the patient had committed suicide as the result of an erroneous diagnosis of Variola, are matters for conjecture only. Fortunately in my case I was under no such compulsion, and with the evidence before me I considered I had quite enough reason to arrive at a diagnosis of Variola which I accordingly did.

Explaining the infectious nature of the disease to the tenants, most of whom had followed me into the different sick rooms, I appealed to them not to leave the premises until the arrival of the Health officer to whom I proposed to report the cases. But the majority of them declined to remain, and as it was very undesirable that contacts should disperse broad-cast. I prevailed

prevailed upon a man who seemed more amenable to reason than the others to hold the gate while I went to get a couple of policemen to keep them in check. This he ~~he~~ successfully did, and when I returned an hour or so later, I found not a ~~large~~ ^{couple}, but a squad of policemen drawn up in front of the barrack and preventing any egress. Failing to find the Health officer I communicated with the acting Governor, Sir Clement Courtenay Knollys, who directed Dr Knox, the acting Surgeon General, to investigate the matter. Soon afterwards I met that officer at the infected house and after examining the cases he declared his inability to agree with me mainly on the ground that the patients did not appear to be sufficiently prostrate, and that in the case of the man F.G., in whom the rash was in the ninth day of its development, the pustules were to a large extent convex instead, as he said, of being umbilicated. It so happened that a few months before this event, Dr Mc Connell Wanklyn had published a paper on the "Differential diagnosis between Variola and Varicella" in the Vaccination number of the British Medical Journal. In this paper which was read with interest among the members of the profession here, most of whom including the Acting Surgeon General, as he himself admitted, had never had the opportunity of seeing a case of smallpox, great stress was laid on the statement that "in smallpox there is a general prostration with muscular flaccidity and tonelessness." A perusal of the ~~pa-~~ paper

paper (B.M.J. July 5th, 1902, p.48) will show that the writer referred chiefly to the stage of ϕ primary fever, for in connection with the above he goes on to say "The cases of smallpox are very few in which this phenomenon in the stage of the primary fever is not present; and its absence in a suspected case tells strongly against smallpox".

It mattered not that the two principal cases in which the lesions were well developed had reached the 7th and the 9th day, respectively, of the appearance of the rash; it ^{was} ~~was~~ sufficient that there was an absence of muscular tonelessness, and the cases were declared not to be ill enough to be smallpox. As to the other three cases in which the rash was just emerging from the papular to the vesicular stage, they were dismissed by the Health officer, who had by this time arrived on the scene, as being typical cases of chicken-pox. I suggested that ^{at all events} ~~in any case~~ the appearances were sufficiently unusual to warrant the isolation of the patients for precaution's sake, but Dr Knox replied that it was impossible to do so without running the risk of being quarantined by the other colonies. I am bound to say that for the moment I was a good deal taken aback by the assurance and impressive manner of the Acting Surgeon General and the Health officer, but when I returned to my house and pondered over the matter away from their influence, I felt that their arguments were lacking in force, and that, after all, they had shown me no real reason why I should alter

alter my opinion. Later in the day I revisited the patients and after carefully examining them I acquired the unshaken conviction that they were all cases of variola. I reported my visit to Dr Knox, and asked him to see the cases with me on the following day, but he said he did not think it necessary as he was quite satisfied that they were nothing ~~else~~

else

else than chicken-pox~~y~~, but that if I cared to see them with the Health officer, he would instruct the latter to meet me next day. I agreed, and the appointment was made. We met at the appointed time, but to my surprise we were told by the patients that the Acting Surgeon General had been there at the break of dawn with Dr Lota, a Frenchman, who, previous to settling in Trinidad, had been in the naval service of his country. This fact encouraged me, for I interpreted it to mean that after taking counsel of his pillow the Acting Surgeon General did not feel so confident of his diagnosis as he had been ^{ow} the day before. After consultation the Health officer maintained his previous opinion and I mine.

About mid-day the Acting Surgeon General informed me that he had been to see the cases with Dr Lota, and that the latter was of opinion that they were unusual cases of chicken-pox. He added that he would be glad if I would meet him at Duncan street next morning so that the four of us, himself, the Health officer, Dr Lota and I, could hold a consultation. We met accordingly, and after a long discussion the officials adhered to their original opinion, Dr Lota agreeing with them as regards the mild cases, but expressing the view that the two severe ones were -----

cases of another disease altogether, neither smallpox, nor chicken-pox, probably "indian-pox" or swine-pox. Not having been persuaded by any of the reasons put forward, namely that the patients did not look ill enough, that the pustulating ~~a~~ case had no fever; (as a matter of fact one of the apparently mild cases grew very ill a few days later, and developed a marked attack of maturation fever), that the pustules looked superficial, and most of them appeared to be unilocular, and that the worse case of the lot was the man who had, as he alleged, been vaccinated in infancy, whilst the unvaccinated infant of S.G. showed no symptoms of the disease, (another premature inference, since the rash appeared on the child a week later)- as I said, not having been persuaded by any of the reasons, I adhered to the view that all five ~~cases~~ were cases of Variola, little thinking that from that moment there would arise a bitter controversy destined to last for nearly a year.

After we parted that day, the first thing I ^{did was} ~~was~~ to return and get two ^{of} the cases photographed, the others refusing to face the camera. I am therefore able to present the photo of F.G. the worst case as he appeared on the ninth day of the rash and twelfth day of the disease. Later on, during the scabbing period, I again had them photographed. By this time, the news had spread over the town that I had reported some cases of a skin eruption as smallpox, but on enquiring into the matter the Health authorities had disagreed with me. The matter might have ended there, so far as I was con-

concerned had not a notice appeared in one of the papers on the following day, bearing evidence of inspiration from the Medical department, to the effect that

"There was an alarm of smallpox in Duncan street on Sunday last, but the public would be glad to hear that the disease was nothing more serious than the simple cutaneous eruption commonly known as glass-pox". Now

in order to understand the effect of this announcement it is necessary to consider briefly a few points in the political organization of this ~~nation~~ island. Trinidad is a Crown colony, worked under the crudest form of that system of government. There is no popular representation properly speaking. The laws are made by a Legislative Council composed of ten officials chosen from the heads of department in the Civil service, and a similar number of private persons ~~nominated~~ by the Governor for a period of five years; ^{latter} these are the "un-officials". They do not hold their seats in the interests of any particular section of the community, or of any particular district of the colony, but they are supposed in a vague and general way to represent the "public". The Governor as President of the Council has a casting vote, and as the officials can at any time be required to vote "solid", the government is in a permanent majority, and is able to carry any of its measures, or defeat any proposal from the un-official side. ^{ex} Experience has shown that in filling un-official seats care is taken to add a little leaven of semi-official

ficial members, i.e. men known to have official lean-
 ings, ^{and who} ~~these~~, of course, are a source of weakness to
 their side of the house. Moreover owing to the cosmo-
 politan nature of the community, and the existence of
 certain racial prejudices, not necessarily associated
 with "colour", the government ~~is~~ further able to weaken
 the unofficial party by making the members divided
 amongst themselves. Thus we find that of a party of
 ten at the present time, there are four Englishmen,
 two Scotchmen, two Frenchmen, a creole of Spanish
 origin, and another of African descent. Officially
 this process is called making the Councillors as re-
 presentative as possible of the different sections and
 interests in the island. In practice it means a
 divided "opposition". And even if this division did
 not exist, politics ~~as~~ they are understood in England
 are at a discount here. There is no true party spirit
 or esprit de ~~corps~~, bred of the traditions and love of
 free institutions which have made Britain great, and
 which colonists generally associate with the motives
 of those called upon to take part in the government of
 the Mother country. This is a comparatively young
 colony the resources of which ~~are~~ being eagerly exploited.
 Most of the colonists are busily bent ~~on~~ on making money,
 and they tumble over each other in ^{the} ~~a~~ mad rush. The
 class from which councillors are recruited ~~form~~ no
 exception to the majority, and the result is that they
 lack ^{the} cohesion of the well drilled officials in whose
 hands, therefore, lies all the power. What is the
 effect

effect of this ? Having always been in power the ruling class has grown to assume an attitude of superiority over civilians, and although this arrogance is resented by some, the bulk of the people take the officials at their own valuation. With the mural thermometer rising above bloodheat, the "man in the street" frequently finds it irksome to do more thinking than is actually necessary to consume a meal, or perhaps, in some instances, to earn one. He will not take the trouble to exercise any judgment in estimating the worth of those with whom he comes in contact. Hence we find that so soon as an individual begins to draw Government pay, whether in a department requiring skilled knowledge or not, he is at once taken as having a prestige over another individual of equal fitness, but not officially employed. This distinction is very much in evidence in the Medical Service and, all things being equal, the opinion of a Government Medical Officer is considered to be of greater value than that of a private practitioner. And in this the people are not entirely blameworthy; for while no publicity, and very properly so, is given to the doings of the general practitioner, it frequently happens that the most trivial performances of the medical official are blazoned in the local press. A man falls in a fit in the street; next morning there is a glowing account in the daily papers of how the sufferer was promptly relieved by Dr X, the energetic District Surgeon. A laparotomy performed at the hospital is followed by a highly coloured account

of

of how Dr Y successfully performed a brilliant operation. A case of trephining will bring out a series of laudatory paragraphs on the consummate skill of Dr Z. Periodically a reporter will pay a visit to the hospital and present the public with several columns of the wonderful things that are being done by the Surgeons of the institution. Now if there were only official medical men practising in the island, or if these gentlemen were not allowed the privilege of private practice, no invidious distinction would result from the publication^{tion} of these "puffs", but when the private practitioner has to compete in every day work with the official whose fame, real or otherwise, is constantly being boomed in the press, the former suffers by comparison, and the public after a time accepts the idea that private practitioners as a class are inferior in ability to their official confrères. This belief, if tested on reasonable grounds, may or may not prove to be justified; my present purpose is not to contest it, but merely to record its existence, and the process by which, as a matter of fact, it is acquired.

Another point to which I desire to draw attention is the part played by the local press in the discussion of professional matters. To begin with there is no medical publication in the colony and practitioners make use of the daily papers for the ventilation of their opinions on medical affairs. That this is a

a regrettable state of things there can be no two opinions. It is necessary however to bear in mind that in pronouncing judgment upon the fact due weight must be given to the different conditions which obtain in the less developed parts of the King's Dominions beyond the Seas. The smallness of the country and the limited sphere in which medical men operate, frequently with clashing interests, foster petty jealousies which, at any rate, are not so apparent, if existent to the same extent, in large centres. The distance from the recognized schools of learning and the utter emancipation from the authority and the chastening influence of the masters of medicine tend to breed a feeling of independence, more often of the blatant kind, in young and old practitioners alike. As each individual competes with the other directly or indirectly, there is no recognized public opinion among the medical body to which members are prepared to defer. The general public is the bar before which each one strives to shine, and hence medical disputes are referred to the lay press for the verdict of the vulgar and ~~the~~ profane. Keeping these facts in mind we may now refer back to the effect of the inspired paragraph~~s~~ declaring the alleged smallpox to be nothing more formidable than "the simple cutaneous eruption known as glass-pox". Whilst the fears of the public were promptly allayed by this pronouncement it was generally felt that I had committed something in the nature of treason to the colony for creating an alarm which

not

^{improbably}
 not ~~being probable~~ would be regarded as being founded
 on fact by the rest of the West Indies in general, and
 Barbadoes in particular. But as it ^{was an} unlikely thing
 that Trinidad would be ~~quarantined~~ for smallpox if that
 disease did not exist in the place, I simply resolved
 to pursue the even tenour of my way and await ~~the~~ develop-
 ments. That, however, was a more difficult matter
 than I had anticipated, for hardly a day passed that I
 did not find myself constrained to defend the position
 I had taken from the assaults of friends, acquaintances,
 reporters and others who conceived themselves qualified
 to place me on my trial, and, as it were, haul me over
 the coals for my alleged blunder. By dint of patient
 argument I had already begun to succeed in convincing
 a certain number of my outraged fellow citizens,
 amongst whom were some of my best patients, that even
 assuming that I had committed an error of diagnosis,
 the lesions of smallpox and chickenpox were such that
 it was possible to confuse them without necessarily
 being written down a hopeless imbecile. But the aspect
 of affairs was changed by an occurrence which took
 place at the Victoria Institute, a local memorial to
 our late Queen providing technical instruction on a
 variety of subjects, and accommodation for various
Board meetings. It appears that during a meeting of
 the managing committee of the Institute of which I am
 an ordinary member, the question of the Duncan street
 cases cropped up, whereupon Dr Knox who was present
 mentioned

mentioned my name, and said that I had committed a gross blunder, my so-called smallpox being plain cases of glasspox. He further went on to explain that whilst in smallpox the pustules are concave, in glasspox they are convex ----- and since the lesions in the disputed cases exhibited the latter feature, the diagnosis of glasspox was as plain as could be. The committee consisted of several official heads of department and other prominent members of the community whose opinions count for a great deal locally, and who on the strength of what had fallen from the Acting Surgeon General were not slow in expressing their disapproval of my "irresponsible" conduct. Apart from this circumstance, the mere fact that this blow ^{had} came from so high an authority as the Acting Surgeon General invested it with an importance which I could not affect to disregard, especially as it was most unlikely that the story would lie buried within the precincts of the Institute. Moreover I was amply justified in coming to the conclusion that the Acting Surgeon General had shown me up to the *acting* Governor in a similar light to that in which I had been ~~shown~~ focussed before the Committee, hence it became absolutely necessary that I should take steps to correct the unfavourable impression which had been created regarding my professional ability. I was well aware however that it would be difficult, if not impossible, to persuade those interested to adopt any other view than that of the Acting Surgeon General, but seeing that the

plain

" " plain cases of glass-pox had given the latter so much anxiety that after examining them with me on the Sunday, he visited them at the break of dawn on the next day, confidentially, with Dr Lota, and again on the Tuesday with the Health officer, Dr Lota, and myself, at which consultation we found sufficient ground for argument to keep us together for more than an hour; and further, that although the official diagnosis of "glass-pox" was persisted in, the Health officer was instructed to continue to visit, and, as a matter of fact, did visit the cases ^{for} of several days afterwards, I thought that, even assuming ~~that~~ I had committed an error, the knowledge of all the attendant circumstances would on their own merits convince the public that, at any rate, I was not guilty of frivolously mistaking a plain case of glasspox for one of smallpox. But it is not an easy matter to reach the ears of those who are disinclined to hear, and I clearly saw that nothing but the most palpable proof of the correctness of my contention would extricate me from the invidious position in which I was placed. ^{That} ~~I had~~ proof obviously lay in the direction of Barbadoes, and after due consideration I came to the conclusion that it devolved upon me to take the necessary steps to find out whether the Barbadoes smallpox and Trinidad glasspox were not one and the same disease. I therefore wrote to the Governor of Barbadoes asking for permission to be attached to the smallpox hospital on Pelican island for the purpose of studying the cases there. A few days afterwards I received

received a reply to the effect that owing to the lack of accommodation and the fact that there were not more cases under treatment than could be attended to by one Medical officer I could not be attached to the hospital, but that the Governor would be pleased to give me every facility for studying the disease. This was indeed good news, and I prepared to leave by the next regular mail for Barbadoes on the 5th December. But what was the position of affairs in the meantime ? ^{The} ~~But~~ out-break remained strictly limited, so far as I happened to know at the time, to No 45 Duncan street, and beyond the original five no fresh case occurred, except the infant child of S.G., ~~in whom the disease broke out seven days after vaccination.~~ For some months before the Duncan street out-break rumours were afloat in Barbadoes that smallpox existed in Trinidad, and at one time those rumours became so persistent that Sir Frederic Hodgson cabled to the Acting Governor of Trinidad inquiring whether there was any foundation for the reports of smallpox in Trinidad. Sir Courtenay Knollys on the advice of the Surgeon General, replied there was none whatever; and yet, in the light of information which ~~he~~ was subsequently made public, it ~~was~~ ^{is} extraordinary that he should have done so, for in an annexure to the Surgeon General's annual report issued after the disease had become epidemic there appeared the following account of the "Origin and history of the epidemic" prepared by the Health Officer, and Dr Lassalle, another member of the Medical service. -----

"The first case of which there is any record was that of an inmate of the Lunatic Asylum at St Ann's. The Asylum is situated in an isolated position beyond the limits of the town. This patient had been an inmate of the Asylum for some years and developed the disease on April 16, 1902. The case was isolated on the appearance of the rash, but other cases, appeared during May, June, July and August until 19 inmates and attendants, all ~~adults~~ ^{adults} were ^a affected. The source of infection could not be traced, and must either have been a visitor, or an attendant who had a mild attack and escaped notice. The cases ~~were~~ returned as Varicella, but the Medical Superintendent has since reported that they were similar to the cases of "eruptive fever" now occurring, and in one instance, that of an attendant who had the disease in August 1902, a few pigmented marks identical in appearance with the macules already described, were visible up to a month ago. * It is of interest that of the 19 cases ten were vaccinated and six unvaccinated persons and in three the evidence of vaccination was doubtful. The most severely attacked were an inmate vaccinated in infancy and an attendant re-vaccinated in 1898 and showing

* I am informed by one of the authors that the paper was written in June, 1903. The period mentioned would therefore be about nine months after the attack. G.H.M. three

three good marks of successful vaccination^f.

On May 2nd, 1902, a similar case ~~in~~ in an adult was reported from Woodbrook, a suburb to the west of Port of Spain. Cases next occurred in Dundonald street, in the North-west of the town, in September. Early in October a woman who had lived in a barrack yard in the South-east of the town developed the disease within a fortnight of her arrival from Yrapa in Venezuela. About the third week of October a case, that of a trader who had recently come from Guiria, in Venezuela, occurred in Duke street, about the middle of the town. Both of ~~these~~ cases lived in largely tenanted barrack yards, did not seek medical aid, and were not reported at the time. Other inmates of these yards were subsequently afflicted but this fact was discovered only in the early part of December and after they had recovered.

During November eleven cases occurred in the middle and South-east of the town, and though in all probability the two cases above quoted were the sources of infection, yet there is ground for believing that in three of these cases the contagion was derived from other sources. Five of the cases occurred in one yard in Duncan street (No 45) in the first week of November, and of these, the two who showed most distinct vaccination marks, were most severely attacked.

During December eight cases were reported from the Eastern, South-eastern and middle portion of the town. Of these one was a vagrant who developed the
disease

disease within a week of his arrival from Yrapa.

In January 1903, a house to house inspection was instituted, other cases were discovered in various parts of the town and the disease began to assume epidemic proportions", ^{As} ~~and as~~ it happened that many of the cases occurred in an institution governed by the Medical Department, room is certainly left for doubt whether in advising the Governor that there was no foundation for the report current in Barbadoes of the existence of smallpox in Trinidad, the Surgeon General did so with a full sense of the responsibilities of the situation, and after careful consideration of all the facts in connection with the cases which must directly or indirectly have come under his notice.

I arrived in Barbadoes on the 6th December, 1902, and it is necessary that I should make some reference to the state of affairs there. One of the first things which I found out from the Poor Law Inspector, (a medical officer whose post corresponds to that of the Surgeon General in Trinidad), was that the story of the Garrison doctors' diagnosis of "indian pox" was a myth which had no foundation in fact. There never was any divergent view among the medical body of Barbadoes as to the nature of the disease, though many of the general public who were strongly anti-vaccinationist expressed, among other opinions against the necessity for vaccination, that the disease was not even smallpox but some kind of harmless eruption commonly met with in the East.

Whilst some doubt existed as to the precise
place

~~unknown~~ place of origin of the Trinidad disease, in Barbadoes there was no such difficulty. The first case was imported from Hailfax in the person of a fireman named Miller who landed in Barbadoes sickening with smallpox from the S.S. "Oruro" on Feb^{ruary} 20th, 1902. Whether intentionally or otherwise the man not was not reported ill at the time the vessel was boarded by the Health officer, and she was allowed pratique, it not being customary to impose quarantine on vessels arriving from infected English or North-American and Canadian ports.

It appears that the man had been ailing from the 19th and was not seen by a medical man until the 21st, that is, the day after his arrival. A rash appeared on his body on the evening of the 22nd, and on the following day the doctor in attendance concluded that he was suffering from smallpox. The case was notified to the Health officer who confirmed the diagnosis and removed the patient, together with four contacts, to the isolation hospital on the Pelican Island.

Two days later, on the 25th, Miller, whose case turned out to be one of confluent smallpox, died and his body, was taken out to sea thrown overboard. This procedure which was rep^{ea}ted on several other occasions, turned out to have been very ill-advised, and had to be stopped, for later, when the out-break assumed epidemic proportions, great difficulty was experienced in getting the people to report cases occurring in their homes for fear lest they should be taken away to the

Pelican island and buried at sea in case of death. The local fishmongers also were much aggrieved for their trade slackened in consequence of the objection which many of the lower orders had to consuming fish which, possibly, may have fed upon the corpses of their relatives. Of the four contacts, two of which were vaccinated on admission to hospital, none took the disease, and they were all discharge^d after a period of 13 days detention. The next case was discovered in a house half a mile from that of the man Miller, on March 22nd, and, unfortunately, only as late as on the 9th day of the eruption. This^{one} was a female, and it appears that she had been visited by Miller on the day of his arrival in Barbadoes. She had heard of his fate, but fearing that she would be sent to the Pelican station as a contact she concealed herself at her mother's house where she sickened and remained until she was discovered and promptly dispatched to the isolation station with fifteen contacts eight of whom developed smallpox there. That batch did not include a sister of the case mentioned above who, happening to feel ill, sought relief at the general hospital where three days afterwards she developed a smallpox rash and was sent to the Pelican island to join the others. On April 8th an unreported contact who had contracted the disease from the original female appeared in the out-patient department of the hospital with confluent smallpox in the maturation stage. On the same day an unvaccinated nurse who had been in attendance upon the first

first hospital case developed the characteristic rash island, and was sent to the Pelican ~~island~~. Altogether five cases were sent to the Pelican island, and of twenty seven contacts, nearly all of whom were vaccinated on admission, eleven developed the disease, making a grand total of sixteen cases of smallpox. On April 23rd fifteen days after the last case was notified clean bills of health were issued to the shipping, and on May 23rd the last patient was discharged from hospital.

Owing to the precise manner in which the origin of the disease in the man Miller was traced to Halifax where an epidemic of smallpox was known to exist, and bearing also in view the subsequent history of the case, there can be no reasonable doubt that it was a case of genuine Variola, and the source from which the other cases originated. It may also be stated that, before death, Miller explained that one or two days prior to his leaving Halifax he had slept in a lodging house in which a man had recently died of smallpox. It is important that this point should be made clear, for when the Trinidad epidemic was proved to be identical in character with the disease existing in Barbadoes, the local press inspired by the Health Department was loud in maintaining that the diagnosis of Varicella still held good for the reason that the Barbadoes epidemic itself was not one of Variola. After the quarantine against Barbadoes was raised all apparently went well until July 13th when a case of smallpox was notified from a house in one of the lower quarters of Bridgetown and sent

Photo 15



Barbadoes smallpox.

The original case of the second out-break.

This girl escaped 10 miles into the country and infected
several persons.

sent to the Pelican Island. On the same day a woman who lived in an opposite quarter of the town, fully a mile distant from the first case of what was now called the SECOND OUT-BREAK, appeared at the Parochial Building in a populous part of the town seeking for relief. For some unexplained reason, before she could be taken charge of by the authorities, and, as it turned out, after she had infected one of the parochial officer, she ~~had~~ fled from the building and escaped some ten miles into the country where she was discovered next day and sent to the Pelican Island. It was subsequently found out that she had stopped for a short time at a house in Bridgetown where she infected two inmates, one of whom developed the disease thirteen days later. This person belonged to another parish and on feeling ill had gone home and remained there until he was discovered, having been freely visited by friends in the meantime. This case proved to be the origin of one of the worst local out-breaks in the course of the wide-spread epidemic which was destined to follow, no less than four hundred cases resulting from it. At that period Barbadoes was practically in a defenceless condition as regards vaccination, and the epidemic gradually spread until every district in the colony was infected. Quarantine was re-imposed throughout the whole of the West Indies, many of the more important colonies making the term so severe that the ~~trade~~ and passenger traffic was virtually ^{ruined} ~~ruined~~. In order not to be quarantined at other ports

ports of call, steamers refused to take passengers from Barbadoes and trade was further damaged by the fact that in many colonies the importation of produce from the infected ^sland was forbidden. The effect of this action was that the peasant class, who had hitherto ^dmake a living from the exportation of their surplus market produce, found themselves and their families in dire straits. Large numbers of stevedores, quay labourers, carters, porters and other wharf hands who previously found regular employment in loading and discharging vessels and in the carriage of goods, were thrown out of work ~~and~~ and became a menace to the security of property in the island. The Royal Mail Company's headquarters were by this time transferred to Trinidad, and tourists,

gave Barbadoes a wide berth, ^{in fact} the tourist season was completely ruined, and the merchants and hotel-keepers met with great losses. They even had to endure the postponement of the Christmas visit of the North American and West Indian ~~fleet~~ ^{Squadron} when the "handy man" freely spends his money ashore. The merchants also lost all the trade that would have been brought to them by the balls and festivities ~~and~~ usually given in honour of the officers and men. The Health authorities after getting over the preliminary confusion which in their unprepared condition this fresh out-break entailed, seriously took in hand the task of grappling with the difficult situation and of stamping out the disease. Previous to this ~~out-break~~ ^{Epidemic}

Epidemic

~~break~~ no regular system of vaccination existed in the colony, and of the population of 196,000 only a portion of the well-to-do class had been vaccinated, the great bulk of the people being unprotected. On May 10th, 1902, the first Vaccination Act was passed making vaccination by the Parochial Medical Officers free to paupers, and open to all others at a fee of 6d per head, the government in every case supplying the lymph without charge. The people who had been well primed with anti-vaccinist literature by one of the local papers were rendered blind to the benefits of vaccination, and would not avail themselves of the privilege to which they were entitled under the provisions of the bill.

On August 22nd, when the second out-break had totalled about one hundred cases, an Amending Act was passed providing for the appointment of lay as well as Medical vaccinators. By this Act every person appointed by the Governor as such, was, after a course of instruction under a qualified medical man, deemed to be a public vaccinator, and empowered to perform the operation on all who desired it for a fee of 6d. The total number of public vaccinators thus appointed was two hundred and fifty nine. The advantages of vaccination were widely advertised, and on this occasion the operation appeared to have become more popular for in a short time no less than 59,000 primary vaccinations were performed. Owing however to the fact that in many instances heads of labouring families were incapacitated from work by

septic conditions following vaccination, a circumstance no doubt favoured by the number of unqualified vaccinators^t that had been let loose upon the public, difficulty began to be experienced in getting others to consent to the operation, and the legislature found it necessary to pass a further Amendment (vaccination) Act on October 29th, by which each person successfully vaccinated or re-vaccinated was entitled to a bonus of 6d. The sum was small in itself, but the bulk of the working class was in very low water indeed, and in the case of a household having four or five children, the amount which the "sixpence^{ny} solace", as the bonus was derisively called by the anti-vaccinists, sometimes brought in, went a long way, in many instances, towards keeping the wolf from the door. At any rate full advantage was taken of it, and by December 31st upwards of 103,000 persons had been successfully vaccinated. Later statistics showed that before the epidemic was over, taking into consideration the number of people who had had themselves vaccinated at their own expense, no fewer than 150,000 of the total of 196,000 inhabitants of the colony underwent the operation, a year's record of vaccination which would be hard to beat in any community. Besides vaccination other useful measures for checking the progress of the *disease* were enforced. These were principally the isolation of the sick, the vaccination of all contacts, and the disinfection of ~~the~~ infected houses and fomites by chemical agents. In a few cases, where this was impracticable

huts were burned down and compensation given to the owners. In order the more efficiently to carry on ^{this} ~~the~~ salutary work, ^{The Health Authorities instituted} a system of house to house inspection ^{which} was adopted in all the parishes, and those responsible for the concealment of cases were vigorously prosecuted before the District ^t Magistrates and fined or imprisoned. Towards the close of the epidemic an important Public Health Amendment Act was passed empowering District Health Commissioners to declare any parish or district under their jurisdiction infected with smallpox "to be an infected area within the meaning of the Act", after which proclamation, it became unlawful, under penalty of fine or imprisonment, for any person to leave the infected area, or any house within it in which smallpox existed at the time, unless he or she had already suffered from smallpox or had been recently vaccinated. All these measures told with great effect, and after reaching its maximum in the month of September, the number of cases reported steadily declined, until at the time of my arrival there was no more than 60 cases under treatment at the Pelican station. But what was the attitude of the ~~the~~ other colonies in the meantime? Were they relaxing the severity of the quarantine measures? Not a bit. On the contrary, they declared that "now was the time to redouble our precautions lest, in her anxiety to be set free, Barbadoes might prematurely declare the epidemic to be at an end, and an unperceived case find its way to our shores". They recalled the fact that on

April 23rd, Barbadoes had issued clean bills of health followed a month later by the discharge of the last patient from the Pelican island, and yet a fresh outbreak began on July 13th. Did the incubation period of smallpox extend over 11 weeks, and was the first case of the second outbreak a direct infection from the last case of the first outbreak? Or had the Barbadians played them false and concealed the cases which formed the links between the first and second epidemic? "We can't be too careful", they said; and in Trinidad they proceeded to introduce fresh quarantine legislation with a view to making the regulations more stringent. St Thomas, St Lucia, St Kitts all had their share of making things unpleasant for Barbadoes, and as if to crown the latter's troubles, Sir Palmer Ross, the Surgeon General of British Guiana, in an official speech declared that arrivals from Barbadoes should be subjected to a mild form of quarantine for a period of six months after the cessation of the epidemic "just for precaution's sake". No wonder that the poor Barbadians were simply driven ~~to distraction~~^{to distraction}. Their trade was at a standstill, particularly their shipping trade, and to such an extent was this branch of business paralyzed, that well do I remember the joy and excitement caused by the arrival, during Christmas week, of a large liner from the United States. She was a passenger vessel built in one of the Eastern States, and was bound to San Francisco, round the Horn, to be delivered

to her owners. She came in for coal and provisions, and to get medical aid for an officer who had been injured. The appearance of this ocean going steamer in Carlisle Bay, and the money that was expected to circulate among those concerned in supplying her wants formed the topic of the day, and brought home to one, almost more than anything else could, what evil West Indian quarantine could work in a port where under normal conditions such an event would have been a mere incident in the day's routine, not calling for any special notice. And while they were doing their ^{very} ~~best~~ best to stamp out the disease, to put the whole island into a proper sanitary condition, and to fulfil all the "bizarre"----- regulations which the other colonies declared that their safety demanded, ^{only} ~~all~~ the recognition they obtained was a most galling distrust, a disbelief in the genuineness of their sanitary efforts, and in the veracity of the reports which were cabled to the other colonies showing the diminishing ~~total~~ case rate. They could see no daylight through their sad plight, and what added a grim sort of irony to the situation was the fact that whilst they were suffering from this economic crisis, and daily depleting their impoverished treasury in whole-hearted attempts to quell the disease, they all felt convinced that Trinidad who had grabbed the lion's share of their trade, who had wheedled ~~wheeled~~ away the Royal Mail Headquarters from them, and who

who was second to none in the matter of devising new quarantine cruelties, was herself infected with small-pox under the pseudonyms of glass-pox and "black measles"; and not only were they aware that Trinidad was doing nothing to prevent its spread, but they had as it were to look on impotently, ^{and contemplate} ~~what~~ the offending colony serenely issuing clean bills of health all the while raising howl after howl of righteous indignation at the wicked Barbadians who perversely refused to be vaccinated, and who kept potatoes and poultry intended for export under the beds of persons suffering from smallpox, with a view to spreading the infection far and wide. This of course was a very painful thorn in their flesh, and though I often had occasion during my stay in Barbadoes to deny the allegations that cases of smallpox had been concealed in Trinidad, believing as I did that the rumours to that effect were incorrect, yet, in the light of the report of the Health officer to which allusion has already been made that the disease had really appeared in Port of Spain in the month of April, cropping up every month in various parts of the town from that time onwards until the alarm was raised in November, I say, that in the light of this knowledge, one is bound to admit that the Barbadians' grievance was a real one, and moreover, considering that no restrictions were placed ^{on} ~~up~~ the passengers from Trinidad who landed without let or hindrance in Barbadoes ^{during} ~~in~~ the interval between the two epidemics, the theory advanced by a large and important section of the people that the

second

second out-break was caused by infection from Trinidad is by no means far fetched.

From the foregoing it may be possible to form a fair conception of the state of affairs in Barbadoes at the time of my arrival there. Soon after landing I received a message from the Governor requesting me to call on him. Next day I presented myself at the appointed time, and His Excellency came forward to greet me in a friendly and informal manner. He said he would like me to tell him frankly how I stood, and whether I was accredited by my government, or had I come in a quasi-official capacity. I replied that I had come entirely on my own responsibility, and referred to my letter of application in which the object of my visit was correctly stated. Even this did not seem to satisfy him, for he immediately asked me in a confidential tone whether I was associated with a syndicate of doctors. The idea of a syndicate of doctors in Trinidad, and I of all persons, representing the "combine" at that particular juncture amused me considerably, and I again assured His Excellency that I had undertaken the visit for my own information. Though the cause of his suspicion in regard to my real status was not apparent at the time, later on I became aware that it was founded on fears which had formed the subject of a lively discussion at a meeting of the General Board of Health to which my letter of application had been submitted. So far as I could make out from what was reported to me, it appears that when my letter was read,

one member said that I should not be allowed to come as he had no doubt that I was being sent on a secret mission to spy out the land since the weekly bulletins reporting the decreasing number of cases of smallpox were not believed in Trinidad, and the government wanted some excuse to still further increase the severity of the quarantine regulations." "Well then" returned a sapient member "if that ^{be} ~~is~~ so, let Dr Masson come by all means, for our reports ~~are~~ true and he will be able to inform his government of what he sees with his own eyes." It was then agreed that my request should be granted, and I was communicated with to that effect, though no intimation was given to me of an important reservation which was made, namely that I should be required to inform the Governor, ~~was~~ whether, after I had been over the Pelican station, I considered the cases there similar to those which I had seen in Duncan street. Of course I had no suspicion of this at the time of my first interview with the Governor, and it was only later on in the light of information received that I understand why I was at first an object of suspicion, and why in his reply, ~~already quoted~~, to my letter of application, the Governor ~~was~~ careful to state that there were "not more cases" (at the Pelican station) than can be attended to by one officer." My status having been ^{Estab-} ~~estab-~~lished to Sir Frederic Hodgson's satisfaction he, there-upon proceeded to ^{he} mark that he knew pretty well what was going on in Trinidad; that I had reported certain cases

as smallpox but the Surgeon General and the Health officer cer rightly or wrongly agreed to call the disease "chicken-pox". Well now he continued "I take it that you are not satisfied with the diagnosis of your confreres, and that you have come over to satisfy yourself and to see whether the cases we have here bear any similarity to those you have in Trinidad". He then paused, evidently waiting for a reply, but for obvious reasons, I made none. The way I viewed the matter was simply this; I had not set out to join in the issue between the Health Departments of the two colonies. I was merely a private practitioner whom circumstances had compelled to lay down my scalpel for the time being and, so to speak, take up arms to fight my own battle, but I had no desire to be implicated in the differences of other and stronger parties, who were well able to take care of themselves. All I wanted was to see the cases at the Pelican station, draw my conclusions, make them known in Trinidad, and let those responsible for inter-colonial affairs work out their own salvation. Abandoning the vexed smallpox question Sir Frederic passed on to the subject of quarantine. He not only deplored the stringency of the regulations, but the capricious manner in which each colony seem to vary them without notice to the infected colony in spite of the common agreement which had ^{been} arrived at by the Demerara Conference. "If they would only give us notice of what they require of us" he sighed "or what they intend to do, we could take the proper precautions; but as it is we don't know where we are", I agreed with him that the practice was bad, and suggested-----

that

that steps should be taken to have it abolished altogether, and a system of marine sanitation, based on what is now observed in England, introduced. At this stage the Colonial Secretary came in, and the Governor re-capitulated all that had passed between us. He then inquired when I would like to begin. I replied "at once," whereupon he instructed the Colonial Secretary to make the necessary arrangements with Dr Bridger the medical officer in charge of the smallpox hospital. We met soon afterwards, and together proceeded to the Pelican ~~island~~ island. ^{The latter} ~~It~~ is a small strip of land lying to the north of Bridgetown some four hundred yards away from the shore with which it is connected at low tide. It is roughly rectangular in shape, and is of not greater length than 300 yards in its long axis which runs from north to south, and about 120 yards in the short axis which faces east and west. Ordinarily it serves as a quarantine station at which persons landing from infected ships are housed and kept under observation during the prescribed period. It is permanently equipped with a small hospital for the accommodation of those who happen to fall ill. But at the time of my visit four more pavilions had been erected to meet the demand caused by the great inrush of cases when the epidemic was at its height. These buildings afforded shelter for over 250 patients, and were constructed of wood. Each one consisted of a long airy ward flanked on either side by an open verandah running along its entire length. These wards were ventilated

Photo 16



Case of smallpox. Pelican Island hospital, 3rd day of
rash.

ventilated by means of numerous windows and doors, communicating^{ing} with the verandahs. As there is very little shelter of any kind on the island beyond a few stunted coconut trees, the sea-breeze, which is ~~is~~ usually stiff in that quarter, swept all day long through and through the wards practically subjecting the patients to a bracing open air treatment. There ~~is~~ can be no doubt that the dilution of the smallpox poison by this means, at a period when the wards were overcrowded, accounted in a large measure for the low mortality which ensued.

At the time of my arrival the force of the epidemic had already been spent, the number of cases was rapidly decreasing, and there were only 43 patients, 31 females and 17 males, in hospital.

I must confess that it was with some trepidation that I entered the first ward. Would the result of my observation there mean that I should have to go back to Trinidad, cry peccavi, and eat humble pie before those who had opposed me so strenuously; or would it be that as a compensation for the hard knocks I had endured I would acquire the certainty that I was right from the beginning and thus find myself in a position to treat with indifference any further attacks, confident that the truth would come out in the ^{end} ~~can~~? "What was the truth?" I speculated, and "would it be on my side or theirs?" The answer ~~is~~ was not long in coming, for in the long pavilion which I entered I saw 31 females in all stages of the disease, some with the rash in the shotty papular and vesico-papular stage, some with vesicles and pustules in different stages of maturation, others-----

pustulating

Photo 17



Photo 18

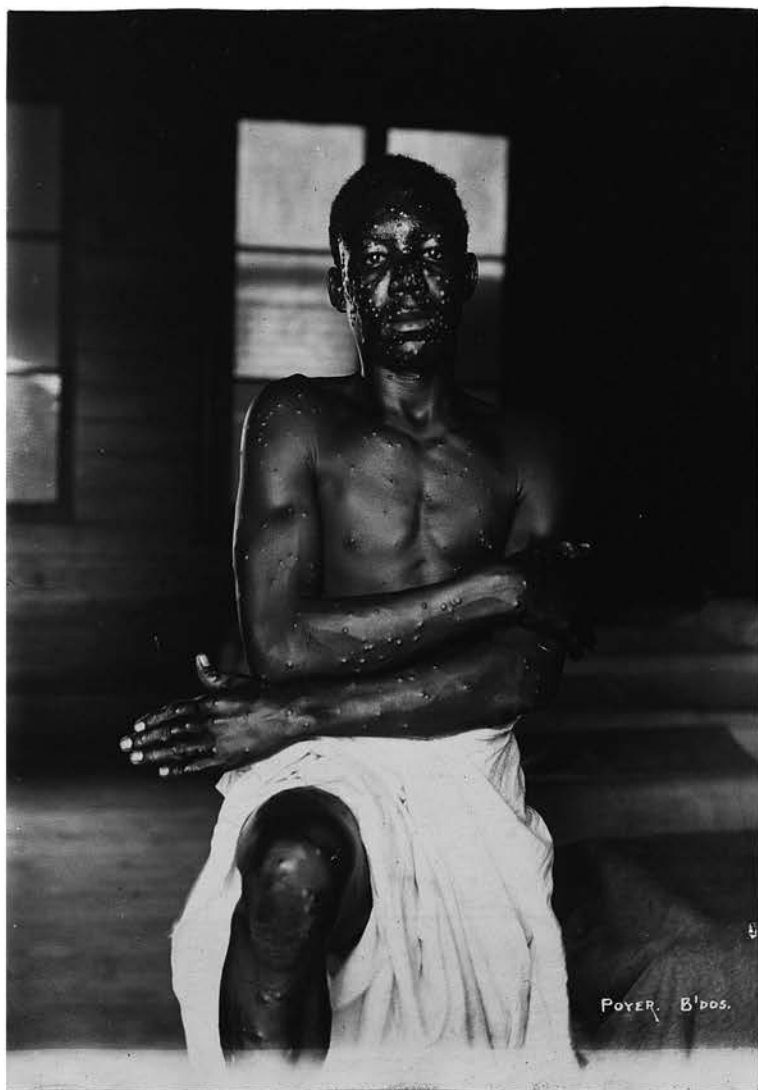


Barbadoes Smallpox.

To show typical distribution, and inspissated pocks on palms of hand.

pustulating all over, tense convex pustules, pearl-like and glistening, with a dark nucleus about the centre of the ~~the~~ dome; - others undergoing absorption and showing a depressed, umbilicated surface. Many ~~exhibiting~~ the palms of their hands and soles of their feet, swollen and painful from the distension of the pustules beneath the epidermis; some scabbing, the characteristic dark brown or black disc-like scabs which fell off in large numbers on the bed, from whence they were collected and burnt. A few patients who had nearly finished desquamating ~~and~~ ^{were} digging out the dried inspissated contents of unruptured pustules from the horny epidermis of their soles and palms in order to hasten the period at which they would be declared free from infection and get their discharge. Lastly the scarring and pitting which marked the faces of the convalescents told their own tale. In the male wards which I next visited confirmation, if any was needed, was afforded to my views by the presence of a few frankly confluent cases two of which were then moribund, and actually did die a day or two later, one evidently of septicæmia, and the other of an intractable diarrhœa. Their general appearance and the sickening cadaveric odour which they ~~exhaled~~ exhaled, and with which the room was filled in spite of the abundant ventilation, left absolutely no doubt in my mind that ~~what~~ I had before me was smallpox, and that taken as a whole the cases were of the ^{same} nature as those which I had reported from Duncan street in Port of Spain. And ~~at~~ just here I wish

Photo 19.



Barbadoes smallpox

A mild discrete case

wish to relate a curious instance of what I might call the uncertain reaction to external stimuli of the various psychological processes which we sum under the name of "human nature". It goes without saying that all through ^{had} I hoped and wished that I would turn out to be right, and my adversaries wrong, but ~~strangely~~ enough, my first feeling after being convinced of the identical nature of the disease in the two colonies was a sense of deep regret. It seems that I immediately lost sight of the unpleasant disagreement with my colleagues and the inconveniences which I had suffered, and the idea which now dominated my mind was the great danger to the public health of Trinidad which an out-break of smallpox in that island involved. Though I was indubitably glad to be able to turn the tables against my opponents, the satisfaction of, as it were, scoring over them, was so very small in comparison with the harm which an out-break of smallpox would do to the country, that I frankly wished the victory had been theirs. After my first visit I returned to the Pelican island daily and made a brief summary of the principal clinical facts in connection with ^{each of} the cases present in the wards. This gave me full opportunity of observing the disease in all its ⁵stages and of becoming impressed with the fact that the supposed difference in character between it and the usual type of Variola were, apart from the low mortality, more apparent than real. My observation having been completed and being now in a position fully to sustain the opinion which

Photo 20



Barbadoes smallpox

Stage of dessication

which I had expressed at the beginning I tried to get a passage back to Trinidad, but in this I experienced great difficulty since the intercolonial steamers all refused to take passengers from Barbadoes in order to escape quarantine at their next port of call. It therefore became necessary for me to try to charter a sailing boat ~~which~~ to take me over to Trinidad, but most of the vessels were "out of commission" for lack of trade, and being skippered, as a rule, by their owners who made it a point of spending Christmas week at their homes I could not induce any of them to undertake the voyage except at a fancy price. I had even to consider the question of returning home via New York. Whilst waiting for something to turn up I thought that nothing could be gained by withholding from the authorities in Trinidad the information that I had found the cases at the Pelican island to be identical in character with those I had left in Duncan street. I accordingly reported to Sir Courtenay Knollys the results of my observations, with some comments thereon, in a letter which was subsequently laid on the table of the Legislative Council, and printed as a Council paper. When Sir Frederic Hodgson became aware of what I had done he requested me to send him a copy of my report, but I declined to do so on the ground that I had no desire to furnish the Government of Barbadoes with material which possibly might be used to the disadvantage of my own colony. Not being satisfied with my refusal he cabled to Sir Courtenay Knollys

for

Photo 21



Barbados Smallpox
A group of Convalescents.

for a copy ~~of~~ of the document which was duly transmitted to him. After a considerable amount of difficulty I succeeded in making arrangements with the Captain of a small schooner to take me over to Trinidad for the sum of £10. Now, considering that the first class cabin fare by the Royal Mail liners is a little less than a guinea, this ^{entire} expence may be taken as a fair sample of the injurious manner in which quarantine operates on the intercolonial passenger traffic. We set sail on Saturday night the 3rd of January, 1903, and with a favourable wind we succeeded in casting anchor off Port of Spain at sundown on the following Monday. Of course we came in flying the yellow flag, and the vessel was not allowed shore communication. I was landed at the isolation station, ^{and} twelve days afterwards, that is to say, fourteen days from the time I left Barbadoes, I was duly released from quarantine. On my arrival in Port of Spain I learnt that Dr Bridger had been commissioned by Sir Frederic Hodgson to investigate the out-break of eruptive disease in Trinidad and was shortly expected to arrive in the colony from New York whither he had gone in the first instance in order to allow a period of fourteen days to elapse between the time of his leaving Barbadoes and arriving in Trinidad and thereby escape the inconvenience of quarantine. A day or two afterwards I had an interview with the Governor, (Sir Alfred Moloney) and the Surgeon General (Dr de Wolf) both of whom had by this time returned to the colony and relieved Sir Courtenay Knollys and Dr Knox, who were also present

at the interview, of their acting appointments. After going into the subject of my report, the Surgeon General advised the Governor that ~~these~~ were no grounds for ~~altering~~ the view which the Health department had formed of the nature of the out-break, ~~since~~, even granting that the Trinidad eruptive disease was identical in character with that which was epidemic in Barbadoes, he had no proof that the latter was small-pox. Instead of improving my relations with the public, ^{I found that} the results of my observations in Barbadoes only made them worse, and though the Surgeon General declared my report to be inconclusive, yet it was felt that it had furnished Sir Frederic Hodgson with an excuse for sending Dr Bridger to investigate the disease. This they resented exceedingly, and the press was loud in its denunciation of what was described as the high-handed action of the Barbadoes Government in daring to doubt the solemn assurance of Sir Courtenay Knollys that ~~there~~ was no foundation for the reports which were being circulated in Barbadoes that smallpox existed in Trinidad. Not only were flaming tirades published against the "Bims" as the Barbadians are known inter-colonially, but Dr Bridger himself came in for very severe handling. At an earlier stage of the controversy the Trinidad press had confined itself to stout denials of the fact that any formidable infectious disease existed in Trinidad, and ridiculed the idea that notice should be taken of an out-break of "glass-pox". No efficient measures of ~~re~~ prevention were ~~was~~ undertaken by the Health department,

department, and fresh cases were freely allowed to come into the island from the neighbouring coast of Venezuela. As Dr Bridger's arrival was now imminent, suggestions ~~was~~ began to pour in, that the infected Venezuelan ports should be quarantined. But the Health department knew that if Trinidad quarantined Venezuela for a disease of which scores of cases had recently been admitted into this port, the other colonies would not unnaturally ~~quarantine~~ Trinidad without delay. Instead of running such a risk, the Surgeon General commissioned two doctors, one of whom was in the medical service, ~~and~~ the other being Dr Lota who had already rendered the official party yeoman service, to proceed to the Spanish Main "to investigate the nature and effects of an eruptive fever reported to be prevalent ^a there, to ascertain the rate of mortality due to the disease, and to decide definitely whether the ~~malady~~ ^a was true Variola or not." Having carried out their instructions they duly returned to Trinidad and sent in a report which is annexed ~~there-~~ to. I will only quote one or two sections.

"That vaccination does not protect.....In Trinidad we have been ~~been~~ searching for the origin of the eruptive fever which has been prevalent ^a in Port of Spain for the last ~~two~~ ^{two} or three months; There is no doubt that it comes from Yrapa with which we are in daily communication, and where the disease ^a has been in full swing for the last ten months.

In conclusion we may state that the epidemic which is prevalent ^a in Guiria and Yrapa is ^{not} smallpox, and in
 our

our opinion there is no need of precautionary measures against the Venezuelan ports in the Gulf of Paria.....

We beg to thank you for the high mark of your appreciation in recommending us for the mission which we hope we have carried through to your satisfaction".

Whether the Surgeon General at the time regarded the mission as having been carried out to his satisfaction or not, it is impossible for me to say; but considering that at a later stage of the controversy he not only found it necessary to declare strict quarantine against the Venezuelan ports, but actually had to employ two extra assistant medical officers of Health at great expense to the ^{local} taxpayers to watch arrivals from Venezuela and vaccinate them, and considering also that the free circulation of Venezuelans still in the infectious stage of smallpox throughout Port of Spain spreading infection right and left had ^{entailed} ~~caused~~ no end of suffering and misery, had cost the Government thousands of pounds, and had caused the colony to be put in quarantine with all its concomitant disadvantages, I think it is not too much to say that the report of the two Commissioners was not worth the paper on which it was written.

It was anticipated that Dr Bridger would arrive about the 17th February, and the still unsettled condition of the official camp was betrayed a fortnight before that date by the despatch of Dr Knox to Jamaica to investigate the nature of an eruptive fever which was reported to have broken out in that colony and locally

called

called smallpox, with a view to comparing the cases with those existing in Trinidad. It was curious to observe how, in spite of the fact that my pioneer work in that direction, at my own expense, was loudly condemned in Trinidad, medical missions became the fashionable thing of the day. In less than six weeks from the time I left Barbadoes we had the mission to the Spanish Main, the appointment of Dr Bridger to special duty in Trinidad, and Dr Knox^{'s} expedition to Jamaica. Truly a wonderful change had come over the medical department. Dr Knox went, saw, and reported a diversity of opinion among the medical men he had met as to the real nature of the disease, some ^{according to him,} considering the epidemic a mild form of smallpox, while the majority believed it to be some aggravated form of Varicella or other eruptive fever not generally met with*. After carefully examining all the cases, he had no hesitation in coming to the conclusion that they were of a similar nature to those in Trinidad." The report is appended in extenso, and along with it an extract from the annual report of the Superintendent Medical Officer, Dr C.B. Mosse, C.B., C.M.G, dealing with the epidemic of eruptive fever* in Jamaica. In this report reference is made to Dr Knox's visit, and his observations and conclusions are dealt with in so trenchant a manner that it is unnecessary for me to do anything more than to draw attention to the two documents and let them speak for themselves. It may be interesting to mention that on board the R.M.S "Nile" the boat in which Dr Knox made his return journey from

Jamaica, there was a case of eruptive fever which the Health authorities in Jamaica had pronounced to be small pox, and, in consequence, had refused the "Nile" shore communication.

On her arrival in Trinidad, however, the ship was allowed pratique, and the passengers allowed to land. Had the ship been quarantined as would have been done under ordinary circumstances, the other colonies would have probably closed their ports to arrivals from Trinidad, and the local health authorities obviated this by allowing free pratique, contrary to all precedent, to a vessel quarantined for smallpox four days before in a British port. The press now began to *vacillate* dreadfully and all manner of wild reports were published. Among other things they declared that the first outbreak in Barbadoes in which the original case came from Halifax was true smallpox, but that the second outbreak which was similar to the Trinidad disease was only "eruptive fever". As the cases were now spreading with great rapidity, it was felt that the Surgeon General as Chairman of the Board of Health should make some pronouncement at a regular meeting of that body which was to be held on the 4th February. Nor was the public disappointed, for in consequence of a letter from Dr Lawrence, an unofficial member of the Board, asking that a report on the eruptive skin disease in Port of Spain be laid before the meeting, the Surgeon General, made a statement which I append herewith as it appeared in the public

Board of Health Proceedings
February, 1903.

BOARD OF HEALTH.

MIN 7644-1903

At a meeting of the General Board of Health held yesterday in the Council Chamber there were present: Dr. the Hon. de Wolf (Surgeon General), in the chair, the Hon. H. A. Alcazar, K.C., Dr. H. Alston, Dr. S. Laurence, Dr. C. F. Knox, Dr. R. H. Knaggs, Dr. J. R. Dickson, Dr. Prada, Dr. Eakin, Professor Carmody, Mr. L. M. Hobson (Mayor of San Fernando) and Mr. H. W. Brathwaite (Secretary).

The minutes of the last meeting read and confirmed.

THE SURGEON-GENERAL ON CHICKEN-POX.

The Surgeon-General read a letter from Dr. Laurence, asking, in view of the eruptive skin disease in Port-of-Spain, that a report on it be made before the meeting by the Surgeon-General. He said before receiving that letter he had proposed to bring the matter before the Board to-day. There had been a great deal of public talk about the existence of an eruptive disease here and a good deal of wild remarks had been heard; he therefore thought it was only right he should lay before the Board and the public the information he had acquired with regard to the disease. The first case, as far as he knew, occurred about the beginning of October last, somewhere in Dundonald street, and they all agreed it was undoubtedly chicken-pox. Later some cases occurred in Duncan street and afterwards one in Duke street, which seemed to be a slightly more severe type and gave rise to controversy. All the medical men here, with the exception of one, agreed they were not small-pox and some of the cases were traced to Venezuela where, especially in the ports of Carupano and Yrapa, there were many hundreds of cases of *lechina*, which was the Spanish equivalent of chicken-pox. The cases of *lechina* were not known to have occasioned any deaths. Early in last year, before he left on leave, he had sent out circulars to all the physicians asking them to report all cases of eruptive pox. He had received reports from Drs. Laurence and others and had ordered house-to-house inspection. Nearly all the cases reported by the sanitary inspectors were seen by the Assistant Medical Officers of Health and some by Dr. Knox. A considerable number were sent to the Colonial Hospital; but several others declined to go there. He had the report of Dr. Dickson on the affected localities, and the distribution of the disease was illustrated by the two spot maps of the town which had been prepared by Dr. Dickson and were before the members. The total number of cases up to the end of Jan-

uary from the beginning of October was 119.

The Surgeon-General here read Dr. Dickson's report, showing what streets in Port-of-Spain and suburbs had been affected between those months and the number of cases in each—making the total of 119 (inclusive of 20 now at the Colonial Hospital and 4 being treated at the Health Office). He had also had Dr. Alston's report of two cases in the country and four at the Tacarigua Orphan Home, and 10 more had broken out at the Home since that. From Blanchisseuse he had also had a report of a case that had broken out there and was sending a medical officer to see it. He did not suppose that meeting was the fit occasion for a scientific discussion as to the differentiation between chicken and small-pox. He might say that with the exception of one all the profession here was unanimous in the opinion this eruptive disease was not small-pox. It was a disease *sui generis* and was described as swine-pox and also as Indian-pox. The general opinion was that it was a severe form of varicella or chicken-pox and one confirmation of that view was that concurrently with this severe form of the disease, even in the same house there were cases which were unmistakably chicken-pox and in one case—the worst case that came from Yrapa and certainly a very startling one—the man made rapid recovery and one of the nurses who attended him developed unmistakable symptoms of chicken-pox. He would just state briefly the principal points of differentiation, marking the eruptive disease here from small-pox. First, as regards the eruption, successive crops of vesicles were observed in every case, which were more marked in some than in others. Secondly, the superficial character of the eruption involving the cuticle and skin and the very slight amount of inflammation of the surrounding skin. The vesicles were uni-cellular and there was no maturation properly speaking, nor was there any secondary fever. The vesicles dried up early, those about the body leaving marks on skin level; while those on the face were mostly elevated, instead of pitting as in small-pox. This prominence gradually disappeared, as also the discoloration. The differentiation with regard to the constitutional symptoms was still more marked. The disease was usually ushered in by fever of about three days' duration, with headache and sometimes pain in the back. On the appearance of the eruption the temperature usually fell to normal and there was no subsequent recurrence of fever. In none of the cases had there been any serious prostration or constitutional disturbance and no complications whatever had arisen. The

print. ~~As~~ this speech was hailed with delight by the public, particularly those who were directly interested in quarantine, and flourished by the newspapers as a new shibboleth against my dangerous and absurd theory of the variolous nature of the epidemic, it becomes necessary for me to make a few remarks upon it. In the first place he began by stating that "the first case, as far as he knew, occurred about the beginning of October last somewhere in Dundonald street, and they all agreed it was undoubtedly chickenpox. But this statement was at variance with the subsequent report of the Health Officer and Dr Lassalle ^{already} alluded to, in which it was stated that the first recorded case occurred on April 16th at the St Ann's Asylum, and that other cases appeared there in May, June, July and August. Besides these a case occurred in Woodbrook, a suburb of Port of Spain on May 2nd, and in Dundonald street, in the North-west of the town in September. In the light of these facts it is clear that ~~the~~ ^{the} statement that the first case occurred in October was misleading, and betrayed a lack of knowledge of facts which as Surgeon General of the colony he should have been cognizant of. And that was not the only inaccuracy, for one finds on comparison that the further description of the origin and history of the epidemic bears a marked discrepancy with the detailed report of Drs Lassalle and Dickson.

Continuing his remarks the Surgeon General said "All the medical men here, with the exception of one agree

*Continuation of February proceedings of
the Board of Health.*

patients usually walked about during the whole course of the disease, unless disabled by the occurrence of eruption on the legs and feet. Vaccination appeared to have no effect in warding off or modifying this disease; it seemed to occur indifferently amongst both vaccinated and unvaccinated. In two cases vaccination was successfully performed whilst the patients were convalescing from the disease. There had been one case of reinfection, the subject discharged from the hospital having developed the disease the second time within two weeks of her discharge. Concurrently with the same form of disease, and often in the same house, occurred cases of ordinary and unmistakable chicken-pox.

Dr. Prada said one hundred cases of chicken-pox were not an unusual number in this town, when that disease was epidemic. How many of the 119 were extraordinary cases of chicken-pox? A third?

Dr. Dickson replied much less than a third. It was rather difficult to state definitely.

Dr. Knox said most of the mild cases escaped observation altogether.

The Surgeon-General said among local medical officers who had seen these cases and were of opinion they were certainly not small-pox were Dr. Boissière and himself, who passed through the epidemic here of '71 and '72.

Dr. Knox said Dr. Boissière had passed through that of 1862.

The Surgeon-General said Dr. Lota was formerly of the French navy and was in charge of the small-pox hospital in Toulon. Drs. Knox, Dickson and Lassalle had all had experience of small-pox. Dr. Lassalle had just returned from England where he had made a point of studying small-pox cases. He (Dr. Lassalle) said as the others did that these cases here were certainly not small-pox; some of them were unusual cases of chicken-pox. Dr. Bass also had experience of small-pox epidemics in the United States and had expressed the same opinion.

Dr. Laurence said he did not believe all the cases to be simple chicken-pox however modified, and while Dr. Lota held they were not small-pox, he at the same time held all the cases were not chicken-pox. Both of them had compared notes, investigated the matter and agree that some of the cases were very unusual chicken-pox however modified. The incubation period, monitory symptoms, the character of the rash were not in some cases what one found in chicken-pox. Dr. Lota held as he did that a large number could not be placed in either category. It was difficult to imagine that chicken-pox should take to itself such sudden and peculiar change. They had epi-

demics of chicken-pox before and no one could be called inexperienced with regard to it. While, therefore, he decidedly held it was not small-pox, he equally held that all the cases could not be classed under the general head "chicken-pox."

The Surgeon-General: We all agree that it is not small-pox and that the disease is not a dangerous one.

Mr. Alcazar: That's the most important consideration.

Dr. Laurence: Still it seems to be spreading steadily.

The Surgeon-General: It is.

Dr. Alston said the eruption was in one case very marked on the forehead and face on the second day and on the third (a Sunday) the patient was able to get up and positively refused to submit to treatment, saying she felt quite strong.

Dr. Laurence said he had heard from Barbadoes. It was the rumour there that extra accommodation had to be built for the small-pox patients at San Fernando. He would like the totally unfounded character of the rumour to go from the Chair.

Dr. Eakin (of San Fernando), to whom the Chairman referred the question, replied that only within the last month had there been any recent cases of chicken-pox, and three of the common garden type had broken out. The rumour from Barbadoes was absolutely untrue, and there was no case of the kind in the hospital, nor had there being any necessity to erect a tent or provide further accommodation. Every year there was an epidemic either of chicken-pox or measles, but they had not been severe.

Dr. Laurence said his only object was to have an official statement of the facts.

Dr. Alston asked whether the medical men in Barbadoes were unanimous about the disease there being small-pox.

The Surgeon-General said he did not know whether the civilian doctors agreed on the point, but Dr. Knox could say the Garrison medical officers thought it was not small-pox.

Dr. Knox said one of the Garrison medical officers, who had come here, had said it was not small-pox, but Indian-pox. That doctor was not in Barbadoes now. He (Dr. Knox) had hunted up books here and could not find "Indian-pox," and he asked Dr. Ireland of the cooie ship, who said he had seen cases in the hospital in Calcutta, but they were simply an aggravated form of chicken-pox and the general description of it corresponded with what they had here.

There being nothing further before the Board, the meeting terminated.

"agree they were not smallpox, and some of the cases were traced to Venezuela where, especially in the ports of Carupano and Yrapa there were hundreds of cases of lechina, which was the Spanish equivalent for Chicken pox". The statement regarding the unanimous opinion of ["]all the profession here except one that the eruptive disease was not smallpox", he reiterated in the course of his speech, and not only that, but by way of contrast he mentioned several of his medical supporters by name, cracking them up at the same time as regards their previous experience of smallpox. My best friends now came to the conclusion that I was overdoing matters. Some of them frankly told me that while they had every confidence in me otherwise, it was futile for me to expect anyone to believe that I was right in my contention, and men of experience like the Surgeon General who was in practice before I was born, and who had been through the epidemic of '54 and '71 were wrong. At first I tried to convince them of their fallacious reasoning by argument, but I had to give it up as it soon became clear to me that nothing would appeal to them but the obvious non-sequitur that "all the doctors" held one opinion, and I held another; therefore "all the doctors" were right, and I was wrong. To return however to the rest of the Surgeon General's statement I must now deal with his remarks on the clinical aspects of the cases. First of all he said that "the principal points of differentiation marking the eruptive disease here from smallpox were (1) as regards the eruption, - successive crops

crops of vesicles were observed in every case (2) the superficial character of the eruption involving the cuticle and skin, and the very slight amount of inflammation of the surrounding skin. (3) The vesicles were unilocular, and (4) there was no maturation properly speaking, nor (5) was there any secondary fever and further (6) that no complications whatever had arisen.

As against this statement I would beg to refer to thesis for the M.D., degree, entitled "On an epidemic of Smallpox of Irregular Type in Trinidad during 1902-1904" submitted in the earlier part of this year by Dr Raoul Scheult, the Government Medical Officer who had charge of the eruptive fever cases treated in the isolation wards of the Colonial hospital. On page 42 Dr Scheult who dealt with upwards of 560 cases stated ~~that~~ "Generally on the fourth day of the disease (i.e. the fourth day of the initial fever) small papules appeared on the forehead and face, then on the back of the hands and about the wrists. The eruption gradually extended to the arm, trunk and lower extremities. (Cf. 1 supra) The rash on the face was often shotty and usually a day in advance of that on the trunk, and two or three days in advance of that on the thighs, whilst the legs and feet became affected at a still later period. During the first two or three days, especially in the severe discrete and confluent cases, fresh papules kept on appearing even on the parts which were more or less thickly covered. The papules gradually enlarged and became

hard

Photo 22



Demerara smallpox

To show "prostration".

hard and resistant to pressure, and in about 24 to 36 hours they were all transformed into vesicles; the vesicles were multilocular (cf 3 supra) and their contents were expressed only with great difficulty.

The vesicles increased in size until about the ~~sixth~~ day of the disease when they became surrounded by an inflammatory areola, which appeared red or black according as the patient's skin was white or black. The contents of the vesicles began to become ^rtubid and the central depression to disappear at about this time. On the seventh or eighth day of the disease the vesicles on the face were fully converted into pustules, and this transformation gradually extended to the trunk and limbs.

In a large proportion the scalp, ears, scrotum, penis and vulva were invaded, especially in the confluent and severe discrete varieties. The mucous membrane of the ^{gums}~~mouth~~, palate, fauces, uvula, pharynx, nostrils, meatus univarius, and the conjunctivae were not infrequently implicated in the severe cases, and occasionally in the mild discrete ones.....the resisting power of the vesicles and pustules showed that they were invested with more than the mere cuticle of the skin. Moreover pitting which resulted in a fair proportion of the cases indicated the depth of the lesions (cf 2 supra) Secondary fever was absent in the abortive attack and also sometimes in the mild discrete cases, and when present in these, its intensity and duration varied very much

much. In the severe discrete cases and confluent varieties the secondary fever was generally severe, but its severity was not commensurate with the abundance of the lesions. In a few instances however the secondary fever was very severe and prolonged (cf 5 supra) It began with the process of maturation (cf 4 supra) and its duration and severity depended more or less upon the abundance of the pustules. It lasted five or days, but was not as high as that of the primary fever. The mornermissions were well marked.

At this period of the disease in the severe cases all the painful and distressing symptoms of the prodromal stage returned, and to them were added pain all over the body due to the ^mtumefaction of the skin, especially on the face, hands and feet, and discomfort in the throat and other mucous membranes where the vesicles appeared. Even in these cases the constitutional symptoms were mild in comparison with the abundance of the rash.....In a few cases however there was great prostration usually associated with fever of a septic nature",.....Complications occurred in all stages of the disease and were in some instances of a grave character" (cf 6 supra) As these complications are ~~given~~ given at considerable length, I shall merely refer to them briefly under their respective headings.

A - In the invasion of an early eruptive stage

(1) RESPIRATORY SYSTEM

(a) DYSPNOEA.

2. NERVOUS SYSTEM

- (a) Delirium
- (b) Convulsions
- (c) Aphasia -----coming after delirium

In two cases the defect of speech (motor aphasia) was still marked, ~~and~~ at the time of their discharge, one 43 and the other 43 days after admission.

3. ALIMENTARY SYSTEM

- (a) Diarrhoea
- (b) Melaena and haematemesis

I
URINARY SYSTEM

- (a) Albuminuria in 13% of the cases
- (b) Haematuria - in a haemorrhagic case

REPRODUCTIVE SYSTEM

- (a) Metrorrhagia

B In the pustular and d^essiccation stage

(1) RESPIRATORY SYSTEM

- (a) Bronchitis
- (b) Catarrhal Pneumonia

2 NERVOUS SYSTEM

- (a) Low muttering delirium
- (b) Paralysis of the Bladder
- (c) Peripheral Neuritis

3 ALIMENTARY SYSTEM

- (a) Diarrhoea, fatal in two adult cases.
- (b) Salivation
- (c) Vomiting

URINARY

4 URINARY SYSTEM

- (a) Pyuria
- (b) Albuminuria.

5 INTEGUMENTARY SYSTEM

- (a) Boils
- (b) Abscesses
- (c) Carbuncles.
- (d) Gangrene of the toes
- (e) Skin eruption such as ecthyma,
Acne pustulosa, rupia and pustular
scabies.

6 REPRODUCTIVE SYSTEM

- (a) Orchitis
- (b) Ovaritis

7 CIRCULATORY SYSTEM

- (a) Phlebitis

8 LOCOMOTORY SYSTEM.

Synovitis

9 ^HLYMPHATIC SYSTEM

- (a) Adentis

10 ORGANS OF SENSE

A Eye

- (a) Conjunctivitis

(b)

- (b) Keratitis
- (c) Panophthalmitis, complete destruction of both eyes following in one case.

B EAR

- (a) Otorrhoea
- (b) Mastoid abscesses

OTHER COMPLICATIONS

- (1) Malarial fever
- (2) Typhoid fever

It is only ~~is~~ left for me to add that the usual sequelae were not wanting, and among the ^{most} important of ~~them~~ which came under his observation, Dr Scheult states, under the heading of Integumentary system:-

- (a) Pitting showed itself in a considerable number of the severe, and in a few of the mild cases. It was confined to the face, and affected especially the forehead cheeks and nose.
- (e) Exfoliation of the skin of the hands and feet was observed in four very severe cases. The skin of these parts were cast off entire like a glove or slipper.

CASES ADMITTED TO THE MATERNITY WARD:-

"Of 51 women who had the disease during pregnancy

pregnancy, 11 aborted, 9 gave birth prematurely".

"In a few cases the foetuses were born with cutaneous lesions characteristic of the various stages of the "disease".

From these records of Dr Scheult who as Chief of the isolation wards had the best opportunities for observing the nature and progress of the disease it will be apparent that the real condition of affairs was very much understated by the Surgeon General.

As regards his remarks that "vaccination appeared to have no effect in warding off or modifying the disease; it seemed to occur indifferently amongst both vaccinated and unvaccinated". I will again quote Dr Scheult, not that I lack direct proof of the fact, but because Dr Scheult happening to be one of the Surgeon General's officers, it may be assumed that he is not likely to overstate the case as against his chief.

On page 67 of his thesis, the doctor says "vaccination had a decided influence upon the disease. Of the five hundred and sixty four cases that came under my care 103 occurred in vaccinated and 461 in unvaccinated persons. The patients' word as to success of previous vaccination was not accepted without verification by careful examination of the scars. Among the vaccinated the proportion attacked was in an inverse ratio to the number of marks present. Thus 43 cases occurred among those who showed one cicatrix, whilst there were

eight amongst those with three scars. The percentage of mild or abortive cases was greater in the vaccinated than in the unvaccinated and no confluent or haemorrhagic case was observed in the former class. All the deaths thirteen in number occurred in unvaccinated subjects. These facts clearly indicate the role played by vaccination in relation ϕ to the disease".

Here again the statement of the Surgeon General upon what was undoubtedly the most important point in relation to the diagnosis of the disease is confuted by one of his own officers peculiarly well qualified to do so in virtue of the post he held during the epidemic.

With regard to the statement that "concurrently with the same form of the disease and often in the same house occurred cases of ordinary and unmistakeable "Chicken-pox". I must point out that during the entire course of the epidemic it was customary for certain medical men to describe the mild discrete, or abortive cases as chicken-pox, and the severer forms as "eruptive fever" or a disease sui generis. In the joint ϕ letter of Drs Knox and Dickson criticising my Barbadoes report we see the same dogmatic statement made on the mere strength of the patients' appearance without the production of any evidence based on clinical tests. "Of the five cases" they said "three were unmistakeably cases of chicken-pox, one, the wife of the worse case" On one ~~occasion~~ occasion Dr Lota similarly begged the question in regard to

to five juvenile members of Barbadian family which he was attending. He showed me the cases declaring them to be undoubted varicella, although the apparent source of infection was a severe case of "eruptive fever" I suggested that they were all cases of smallpox, and as it happened that none of them had ever been vaccinated before, we decided to settle the matter by the vaccination test. When the patients had finished desquamating we vaccinated them with human lymph, each case being paired with a non-immune control. In due course all the controls "took" perfectly, but the others failed to do so having, of course, been previously rendered immune to vaccina^A by their recent attack of smallpox. It was shortly after this experiment that Dr Lota reported the discovery of a case of true smallpox, avec tous les sacrements, greatly to the consternation of the Government party who, in consequence of his much-talked-of experience at the fortress of Toulon, had hitherto hailed him as a tower of strength. Else^Ewhere (p. 81 et seq) I have ~~already~~ dealt with the question in which vaccination was said to be successfully performed during convalescence from the disease. For the moment I would ask to draw attention to the remarks of Dr Lawrence further down in the report of the Board of Health's proceedings still under review "Dr Lawrence said that while Dr Lota held they were not smallpox, he at the same time held the cases were not chicken-pox. Both of them had compared notes, investigated the matter and agreed that

some of the cases were unusual chicken-pox, however modified. The incubation period, premonitory symptoms, and the character of the rash were not in some cases what one found in chicken-pox. Dr Lota held as he did that a large number could not be placed in either category.

This it will be observed, fully corroborates the statement in my report to which Dr Lota had taken exception, and with reference to which the Surgeon General in his minute to the Colonial Secretary had remarked "It will be seen that he (Dr Lota) claims that Dr Masson has incorrectly reported him" Bearing in mind however, the independent remarks of Dr Lawrence, and the fact that in less than as many months Dr Lota had committed himself to at least six different opinions in regard to selected cases of the same disease, viz

- (1) Indisputable chickenpox.
- (2) possibly, swine pox of Willan.
- (3) at first sight, smallpox,
- (4) not smallpox.
- (5) neither smallpox nor chickenpox.
- (6) smallpox.

I think that, even admitting, all these opinions were formed "after reflection", it is hardly necessary to "size up" their value, and the only thing left for one to do is to reflect with amazement on the lack of justification for his claim that "quand après réflexion je me suis fait une opinion, je m'y tiens", and that I had incorrectly reported him.

By the end of that month , February, the number of cases reported totalled about 400. Lest it should be thought ~~that~~ by taking any action the Government had altered its opinion regarding the nature of the disease, absolutely no precautions were taken to prevent its spread, and persons scabbing and desquamating, and in various other stages of the abortive and mild discrete varieties were allowed to circulate freely about the town and in the shops spreading infection right and left. The annual Carnival was also celebrated about this time, and numbers of infected persons mixed freely with the large throngs that gathered in the streets to view the procession and join in the gay frolics of the masqueraders. The result was that within the next fortnight the attack rate went up tremendously. But before the month was ended an important chapter in the history of the controversy had commenced with the arrival of Dr Bridger, the Barbadian Commissioner, sent to investigate the nature of the epidemic. The first thing the press did was to attempt to browbeat him with threats, ridicule and

and

THE SMALL-POX SPECIALIST.

The Mirror Jan'y 27th 1903

[By PETER PEEPING.]

I WAS one of the first to meet the small-pox Specialist, Dr. Ponter, on his arrival from New York. The doctor handed me the following resolution passed in Barbadoes, as his authority for coming here :

"Whereas it would be a source of great and perpetual delight to the good Christian people of Barbadoes if the island of Trinidad were quarantined and its trade paralysed for two years, he it resolved that Dr. Ponter be sent to Trinidad to investigate the cases of black measles, yellow scarlet fever, green whooping cough and foul chicken-pox, with the sincere hope that the money paid to him will not be money thrown away."

While he was in quarantine at the Islands, I received the following letter from my friend, Dr. Onmass, which I now make public :—"Dear Peeping.—As you know, when I was in Scotland (for two or three weeks), I made a special study of small-pox, large oatmeal and medium haggis. Owing to the inability of the medical men in Trinidad to understand that it is utterly impossible for me to make a mistake in diagnosis of a case as one of small-pox, I was determined to get medical men, noted for their great intellectual qualities, to agree with me. I decided that such men were to be found in Barbadoes, where the phosphorus contained in flying fish and sea eggs promotes the flow of thought and produces brains somewhat resembling mine, and yet without plagiarism. It is simply wonderful how the medical men in Barbadoes have seen eye to eye with me and have supported my diagnosis without even seeing a case in Trinidad. To verify their invisible diagnosis Dr. Ponter is to be sent over, and he is to be placed under my guidance as I am the Scotch Specialist and he is only a Barbadian one. I have shown him some kindness and took him about. Let him see the Diego Martin Water Works and taste the tar water. Tell all the people of Trinidad, my native land, that I love them, and that if they really believe that I have tried my best to help to put the island in quarantine and get its trade paralysed for two years, they must try and forgive me. I, a son of the soil, rejoice that I have done something to make my name ever remembered by the Trinidadians whom I love so well. I shall not refuse the C.M.G. when it is offered to me.—Your sincere friend, G. ONMASS."

The following correspondence by telegraph was seen by me when I was hypnotised :—Ponter to Governor of Barbadoes. "None of the cases I have

seen show any sign of physical prostration, and none die. Will look ridiculous in England if I pronounce them small-pox cases." Governor to Ponter. "Let the people of Trinidad know that our mortality rate here was 8 per cent., and that the refusal of some of the Trinidad cases to die is regarded here as an insult to Barbadoes." Ponter to Governor. "I find that Trinidad is a better place than Barbadoes, small-pox or no small-pox. I want to stay here altogether. Will you accept my resignation?" Governor to Ponter. "I see that good money has been wasted on you. What does the great Dr. Onmass say?" Ponter to Governor. "Onmass nearly killed by the people. Leaves for South Africa to study the Veldt sores so as to find a remedy for ground itch. Tried to get him to go and settle in Barbadoes. Nearly killed me for suggesting it. Farewell."

and abuse. He was told that his mission was an impertinent one, that in any case no weight would be attached to his opinion; that he knew nothing about smallpox and that if his report were unfavourable to Trinidad it would have to be reviewed by a smallpox expert from England. It was further suggested that he had come to Trinidad ~~in search of~~ employment and better pay than he was getting in Barbadoes. Of course as I ^{was} considered to be the fonset origo mali in this matter I was ^{not} left in the cold. One paper published a satirical article entitled "The smallpox specialist" in which as "Dr On-Mass" I appeared in the title role, with Dr Bridger as "Dr Ponter". It was intended to be witty at my expense, but having laughed at it as much as those for whose special delight it was published, I feel that I thereby disqualified myself of the right to quote it as a grievance. It is appended below. Another sheet tried to fan up the flames of public feeling against me by publishing an article in which the following appeared "The Commission of Enquiry through Dr Bridger is an impudent gratuitous insult offered to our ^{to} government, and the Medical profession of the Colony. Certainly though Dr Masson, with the long alphabet after his name, thinks differently, the colony can boast of eminent physicans and surgeons who know and could easily diagnose smallpox if a case turned up. I will not call names nor cite cases, but this much I can say that for the insult offered us we have to thank Dr Masson". The conservative paper and organ of the

official

official party in a review of the events which led to the dispatch of Dr Bridger to Trinidad, after alluding to the transfer of the Royal Mail Company's Headquarters from Barbadoes to Trinidad, declared that "this was a "second blow to Barbadian pride and, given a convenient "opportunity, the transition was not difficult from a "state of irritation to one of suspicion of foul play "on our part. Such an opportunity was found when it "was reported that a medical man from here had stated "that cases of so-called chickenpox here were not dis- "similar from Barbadoes smallpox. This convenient spark "exploded the pent up wrath of our Barbadian fellow "colonists, and it was only the force of circumstances "which prevented them from blockading us and otherwise "treating us as England and Germany are treating Vene- "zuela". Dr Bridger was not long in setting to work, and while the medical department professed to be eager to render him every assistance, he soon detected an absence of frankness in their dealings with him. Reference is made to the fact in the report ^{is} which he subsequently sent in showing among other things how cases exhibited to him by the Assistant Health Officer at the request of the Surgeon General to show that the disease occurred in vaccinated and unvaccinated alike, proved on inquiry to be

- (a) cases occurring in adults vaccinated or said to be vaccinated in infancy, i.e.

after

after the period of protection conferred by the primary vaccination had lapsed.

- .(b) persons vaccinated obviously after infection, the disease appearing a few days after vaccination and running concurrently with it (See Dr Bridger's report p.15 - vaccination statistics)

Dr Bridger also complained under the heading (p.14) of "The eruptive disease in relation to vaccination" that cases upon which he had experimented were discharged from hospital by the Senior Surgeon without his knowledge, thereby precluding him from verifying the success ^{or} failure of his tests.

"I feel that I cannot leave the discussion of "the experimental cases" he reported, "without saying "how much I regret the action of the Hospital Authorities in discharging these experimental cases. My experience^{ments} were not being ~~a~~ carried out in any hole and corner fashion. The Senior Surgeon supplied the lymph, and was cognizant of the scientific object with which the experiments were made. He was evidently an interested observer of it, for he regularly inspected the arms of these persons, as I was informed by the nurses". The difficulty of the situation was still further increased when Dr Bridger discovered that, in spite of the official assurances that there had been no deaths from the disease, and the fact that the Mortality Returns up to the 31st January,

Board of Health Proceedings
March, 1903. (abstract)

BOARD OF HEALTH.

14th March 1903. P.M. 9.30-10.45

At a meeting of the Board of Health, held in the Council Chamber yesterday, there were present: Hon. J. A. de Wolf, Surgeon-General (presiding), His Worship L. M. Hobson (Mayor of San Fernando), Drs. C. F. Knox, J. A. Eakin, H. M. Alston, R. Knaggs and E. Prada, Mr. A. D. O'Connor and H. W. Brathwaite, Secretary.

The minutes of the last meeting were read and confirmed.

THE ERUPTIVE EPIDEMIC.

The Surgeon-General said in continuation of the statement he had made at the last meeting, he thought it right that he should inform the Board of the progress of the eruptive fever. The number of cases notified and discovered from house to house visitation in town, up to the 28th of February, numbered 387. There must have been some cases which had escaped their notice, and roughly speaking he would say that there was a total of about 400 cases. With regard to the mortality, it had been nil up to the present. There had been two deaths registered with the Registrar General, in which the word *varicella* had been used on the certificates. One of them had been attended by Dr. Gomez. It was an infant prematurely born and extremely feeble and died at the age of five weeks. It had suffered from chicken-pox previous to its death, and the body was seen by Dr. Dickson, who found that the rash had fallen off and that the child had been rather puny and premature. They could not say that the chicken-pox had in any way caused its death. The other case was treated at the Health Office by Dr. Knox. In this instance the child was three months old, and death was stated to be due from bronchitis, enteritis and chicken-pox. Dr. Knox added that the child was suffering from other complaints, and that there was no doubt that chicken-pox was not the immediate cause of death.

The Surgeon-General said with regard to vaccination in this disease, they were endeavouring to test the question as to whether vaccination had any influence in modifying the disease. Up to the present time they were scarcely in a position to pronounce any record about it, but the impression they gained was that it attacked the vaccinated as well as the unvaccinated. A woman living in Charlotte street was vaccinated on February 18, and on the following day the eruptive fever appeared, running concurrently with vaccination. The case was seen by Dr. Dickson and himself. In another case the fever developed the following day after vaccination. In the

third case the rash developed eight days after vaccination. In the case of a woman named Murray, rash appeared after a period of about seventeen days. He might mention that there had been several cases where persons who had suffered some years ago from undoubted small-pox, and had the mark of small-pox, the attack of chicken-pox was in no way modified. He had given instructions to have vaccination performed generally so far as it could be done on the premises where such cases occurred, with a view of testing the point thoroughly. They would then be able to speak with authority on the matter.

Dr. Alston asked if there had been any vaccination after the disease had appeared.

Dr. Knox said there had been some, but as far as he remembered vaccination had not modified it.

In reply to the Surgeon-General, Dr. Eakin said there had been some cases of the pox in Niparima district, and in two particular cases the attacks were rather severe. In the second case the man was suffering in hospital from the results of an accident, and when he had almost recovered the rash appeared.

Dr. Alston said Dr. Reid had made mention of a very interesting case in the Tacarigua Orphan Home.

The Secretary read the report of the medical expedition to Yrapa to inspect cases of chicken-pox there.

The substance of the report has already been given in an issue of this paper.

The Surgeon-General said he had heard unofficially that there was small-pox in Jamaica, whereupon the Governor sent a telegram to the authorities in that island, and had received the reply that there were a few cases of chicken-pox in the interior, which had been isolated. The Governor thought it desirable to send a medical man to Jamaica to compare the cases there with the eruptive diseases here, and Dr. Knox was selected. Dr. Knox's report was then read. It will be published as soon as transmitted to the Government.

The Surgeon-General said the Board had received some communication from the British Consul in Bolivar concerning a similar eruptive disease which had broken out there. There were no deaths.

It was announced that the Administrator of Dominica had declared quarantine against Trinidad.

The Surgeon-General remarked that the disease (chicken-pox) was spreading all through the West Indies and Northern South America.

The Board then rose.

January, published in the Royal Gazette, were silent on the point, two cases, one on the 2nd of December and the other on the 27th of January, had died of the prevailing disease and were certified, the first by a Dr Gomez as "Chickenpox; Asthenia;" and the other by Dr Knox as "Enteritis; Bronchitis; Varicella". This led to the belief that deaths were being concealed. On inquiry for particulars at the Health Department the Surgeon General who appeared to be ignorant of the facts procured the necessary information from the Registrar of Deaths and sent it to Dr Bridger. The latter commenting upon this incident in his report says "From this I take it that the Surgeon General was officially unaware of the occurrence of these deaths until he obtained the particulars of them from the Registrar General in reply to my inquiry. He was then able to officially announce them at the March meeting of the Board of Health. This is all the more curious and inexplicable when one notices that in one case Dr Knox, late acting Surgeon General, was the medical officer who signed the death certificate; and in the other case Dr Dickson, Assistant Health officer viewed the body after death". I may add that the officer who prepared the mortality returns for the Board was also Dr Dickson himself. When the matter came up for discussion at the next meeting the Health Department showed itself quite equal to the emergency, and it was stated as a reason for not having mentioned in the returns the deaths from Varicella, was that they related to "two weak

"Weak and puny infants who would have died in any case,
 "the occurrence of varicella being merely incidental."

As was to be expected both of these infants were unvaccinated, but instead of that being regarded as a factor favouring death from smallpox, it was advanced by Dr Knox, as regards the case in which he was personally interested, as a proof of his contention that the child was a weakling from birth who had escaped vaccination on that account at the statutory age limit of six weeks. At this, the second meeting of the Board of Health since the epidemic became general, the statements of the Surgeon, ^{General} apart from the manner ^{in which} ~~of~~ the two deaths were explained away, were very interesting from the point of view of the effect of vaccination in relation to the disease. He repeated the opinion that "the impression they gained was that the disease attacked indifferently the vaccinated and unvaccinated and he proceeded to give examples of "one or two interesting cases" of which he ~~had~~ taken notes. One was a woman in Charlotte street (Delta Active) vaccinated on February 18th; she developed fever on February 19th and both conditions, vaccination and eruptive fever ran concurrently. It was ^a "typical case", he saw it, and so did Dr Dickson. The next case was that of Nurse Ross which was of a similar character. Fever developed within a day ^{after vaccination,} and the vaccination and the disease ran together. The third case was that of Frances Pantin; she was vaccinated and the rash developed

developed eight days after". As these cases were shown to Dr Bridger as examples of the disease occurring in vaccinated persons I am happily relieved of the necessity of ~~criticising~~

criticising

criticising what most medical men would regard as some^{thing} in the nature of a quibble on the part of the Surgeon General in suggesting to the Board for the benefit of the public that vaccination did not protect against the disease because a certain woman had been vaccinated one day, and the symptoms of invasion had appeared the next. I shall merely reproduce the following extract from the doctor's report (p.15) in which the matter is dealt with.

" Dr Dickson took me to see Nos 1 and 2 at the request of the Surgeon General.

" No 1 Delta Active in Charlotte street,
 " vaccinated on February 18th. She
 " develpped fever on the 19th and
 " the rash appeared on the 22nd.

" I saw her on the 28th February and she presented typical
 " vaccination, and the eruptive disease was moderately
 " severe; although eruption was discrete and was then in
 " the pustular stage. There was no modification of the
 " disease whatever. In other words taking the incubation
 " period of the disease to be twelve days, (that is what
 " Dr Dickson, Assistant Medical Officer of Health states
 " it to be) we find that Delta Active got infected on the
 " 7th February, and was vaccinated on the 18th or eleven
 " days after infection, and the symptoms of invasion began
 " the day after the 19th. The rash came out on the 22nd
 " February.

" No 2. Frances Pantin (shown me by Dr
 " Dickson) was vaccinated on the
 " 14th February, the rash appeared
 " on the 21st, the first symptoms
 " on the 18th, that is she was
 " vaccinated four days before the
 " commencement of the invasion
 " symptoms and eight days after in-
 " fection. This woman had a mild
 " attack of the disease.

No 3. " That of Nurse Ross who was vacci-
 " nated one day, and the fever
 " commenced ^{on} the following ^{day}. As re-
 " gards this case the Surgeon Gen-
 " eral did not mention that this
 " unfortunate young woman and an-
 " other were both on day duty in
 " the eruptive disease ward at the
 " hospital. Ross who had never
 " been vaccinated in her life until
 " too late develops the disease,
 " the other, vaccinated as a girl,
 " escapes".

Commenting on this Dr Bridger remarked that "To mention
 these three cases at a meeting of a Board of Health as
 evidence that this eruptive disease attacked vaccinated
 and unvaccinated alike (vide minutes of Board of Health

meeting

meeting of March 3rd, 1903) and so inferring that it could not be smallpox, was evidently to impress the lay public with that idea. To expect an unbiassed medical man to accept these cases as negating smallpox would be futile, and I am sure the Surgeon^{General} knows that as well as I do". With these remarks I entirely concur, and it is only left for me to say that at a meeting of the General Medical Board of the colony summoned at the request of the Governor to discuss Dr Bridger's report, the Surgeon General made no attempt to defend his position or call upon those who had supplied him with such worthless information to explain their notions of the relationship of vaccination with smallpox. But he merely contented himself with a bald declaration that he saw no reason to alter his views and that all he had said had been stated in good faith. I am however anticipating somewhat, for it was nearly a week after the Board of Health meeting of the 3rd March that Dr Bridger's report was handed in. Excitement ran high in the interval, and nearly every day paragraphs of an uninformed and irresponsible character were published in the papers attributing to Dr Bridger a variety of statements in regard to the epidemic. To-day he had found it to be Chickenpox, tomorrow the same disease as in Barbadoes, but neither chickenpox nor smallpox, the day after something else, and so forth, according to the fancy, the desire, ^{of} the imagination of the sub-editors. But while all this was going on, and the eruptive fever

was

Photo 23



Demerara Smallpox.

was as it were on its trial before the Barbadian Commissioner, unvaccinated contacts, recent sufferers only partially desquamated, and still in the infectious stage of the disease, were freely leaving the island and landing without let or hindrance in the ports of the other West-ian colonies. As was to be expected the disease in this manner **became** general in the British colonies, and of these Demerara was the one to suffer most. Pinning his faith too closely to the opinion of the Trinidad Medical officials the late Sir Palmer Ross, then Surgeon General took no active steps to prevent the spread of the eruptive disease when it appeared in Georgetown the principal city of Demerara. The cases were reported as chicken-pox and nothing further was thought about them. When Barbadoes raised an outcry and threatened to quarantine Demerara as being a place infected with the same epidemic disease as that existing in Trinidad, smallpox to wit, Sir Palmer Ross ridiculed the idea, but Barbadoes was persistent and the other colonies took up in the clamour for quarantine. To precipitate matters the disease, mild in type at first, soon began to assume a graver aspect, and finally ended by impressing the fact of its variolous character ^{upon} ~~upon~~ the minds of all unbiassed persons able to judge, even that of Sir Palmer Ross himself; too late, however, to prevent an epidemic, too late to escape the dreaded quarantine ! The result was that the Municipal Council of Georgetown became terribly wroth with the Surgeon General for not dealing with the ~~disease~~

Photo 24



Demerara smallpox.

at the proper time. Severe recriminations followed and as the cases increased to an alarming extent the Council got at ^lloggerheads with the medical department over the question of providing properly equipped isolation hospitals, a necessity which each of the two bodies considered was within the province of the other to supply. When the crisis came Sir Palmer, brave and energetic man that he was, put his shoulder to the wheel and did his best to mitigate the evil which had resulted from his too great confidence in the diagnostic acumen of the Trinidad Medical officers, and also, in no small degree, from his hesitation, bred of the pernicious quarantine system, to undertake legitimate sanitary measures lest suspicion, with the possibility of quarantine, might be aroused in the other colonies. But he had already served the country honourably and well for many years; now he was no longer young, and his health, none of the best at the time, gave way under the strain, and thus it came to pass that before another year had elapsed, in spite of a well earned and much needed rest in Barbadoes, he completely broke down, and one sad morning the cables all over the West Indies announced the mournful tidings of his death. Sometime before the sad event took place, he wrote to express his satisfaction at the positive results ¹ he had obtained in variolating a monkey with matter from one of the cases of so-called varicella at the Colonial hospital. He also sent me a copy ^{of a} recently published report ~~which~~ [^] ~~I append hereto~~ of the medical officer in charge of the cases

Photo 25-



Demerara Smallpox.

cases under isolation in Demerara "from which" he remarked sadly "you will observe that the disease with which we are dealing is smallpox".

Returning to affairs in Trinidad, the suspense and anxiety created by Dr Bridger's presence in the colony were at length relieved ^{when} on March 8th he presented his report to the Governor and sailed for Barbadoes on the same day. All sorts of rumours were rife prior to the publication of the text, but soon it became known that the eruptive disease had been declared to be smallpox and the tongues of opposition were let loose in all their unbridled wrath. Summing up the results of his observations Dr Bridger reported as follows:-

"In conclusion I may say briefly that the weight of the evidence points to the eruptive disease being none other than smallpox, of a mild type it is true in most cases, but still smallpox. My reasons for coming to the conclusion that this disease is not the common cutaneous eruption known as glass-pox are:-

1. The ~~the~~ prodromal symptoms of the disease and their duration before the appearance of the rash, together with the fall of temperature on its appearance.
2. The ~~majority~~ majority of the cases being in adults.
3. The constant appearance of the rash first on the face.

4. The distribution of the rash is typical of smallpox.
5. The fact that the palms of the hands and the soles of the feet were always the last to become clean.
6. The fact that the lesions are not superficial.
7. The evidence of vaccination influence.

A day or two after Dr Bridger's departure the Surgeon General at the request of the Governor called a general Meeting of the Medical Board (of which every medical man practising in the colony must be a member) to consider the report. Government Medical officers stationed in every district of the island were "whipped" up to the city to attend the meeting. At the appointed hour 36 members of the Board met, and of this number two thirds were officials, some of whom remarked, in conversation before the meeting, that they understood that they were expected to vote "solid." It so happened that hardly any of the medical officers who had come up to town from different parts of the country had up to that time seen a single case of the disease, the infection not having yet invaded *their* districts as it was destined to do later; nevertheless they were expected to vote, and vote they did. The meeting having been declared open by the Surgeon General, and the purpose for which we had ² met, explained, the Health officer, Dr Dickson, proceeded to read the report. Comments were then invited

invited, but instead of dealing with Dr Bridger's statements and refuting them if they could, an octogenarian member of the Board, long retired from active work, got up and in a desultory fashion began to relate his experiences of previous epidemics of smallpox when the people died like sheep, and when the odour of putrefaction was so great that persons passing in the street could always recognize any house in which a case existed. A strong point was made of the fact that over 3000 sailors of a squadron of the United States navy had recently landed in Trinidad without a single one among them falling a victim to the disease. To argue that this fact was only another proof of the variolous nature of the disease since the American tars are all proper vaccinated, was merely to court ridicule, and the meeting seem^{ed} to agree that the naval Surgeons would not have allowed their men to land and roam about the town if they had considered the epidemic to be one of smallpox. Beyond reading the report to the meeting Dr Dickson from whom every one had expected a spirited defence of the official position, never said a word, nor did any medical officer in the service rise from his seat and give adequate reasons, based on experiment, why Dr Bridger's opinion should be discarded. Dr Dickson who had full access to the isolation hospital could give no statistics bearing on the influence of vaccination on the disease beyond the report of the few unsatisfactory cases which had been quoted by the Surgeon

General at the recent meeting of the Board of Health. Not that the time for doing so, or the number of cases from which any reliable deductions could have been made were insufficient because in spite of the fact that during all this strife I was engaged in practice I managed to include in the notes which I had prepared for the meeting a table showing an analysis of the age period of 50 cases taken at random from over 70 cases which I had treated, and also the results I had obtained in the vaccination of a number of cases before, during, ^{and} after the occurrence of the disease. Several months later when the Health Department published its returns regarding the age incidence based on an analysis of over 4000 ^{Cases} it was remarkable how closely the percentages agreed with the figures I had obtained from my fifty cases. I say therefore that with nearly 400 reported cases at the end of February the Health Department had ample material to test the disease and to supply reliable data in support or otherwise of their side of the contention. At any rate after most of those who had anything to say had spoken I proceeded to read the notes on the observations I had made, and to give reasons based on clinical evidence why I agreed with Dr Bridger that the disease under review was smallpox. In the midst of my speech the country members noticed that the hour at which they required to leave to be able to catch the train to their districts had arrived, so one by one they rose and asked to be excused. Before quitting the room, however, each one approached the secretary and left his name to be recorded

recorded as having voted for whatever motion the remaining officials members would agree to. After the interruption ceased I continued my address, but when I resumed my seat all the response I elicited in the shape of argument was a ^abold statement by the Surgeon General that he saw no reason to alter his opinion, and so far as the remarks of Dr Bridger in relation to him were concerned he could only assure the meeting that all he had said at the recent meeting of the Board of Health, he had said in good faith. After this, and evidently in accordance with a prearranged programme, the same old gentleman already referred to rose and moved "That no such disease as mild smallpox exists in epidemic form, and that the eruptive fever now prevailing in Trinidad is not smallpox". To this I moved as an amendment. "That in view of the age incidence, the invasion, the type and course of the eruption, the distribution of the same, the evidence of vaccination in relation to the disease, and the other clinical facts set forth in my address and Dr Bridger's report, and also in view of the opinion of Dr Montizambert of Ottawa, and Heman Spalding, of Chicago on ~~the~~ similar epidemics in Canada and the United States, this Board is of opinion that the prevailing eruptive ^{fever} is smallpox". The amendment was seconded by Dr Vilain, who expressed himself as being entirely of my views, and supported by Dr Savary. On being put to the vote no other supporters were forthcoming and the amendment was lost. The original motion ^{was} then put and carried, the three of us voting against

against it, whilst Dr Camps, another practitioner who had not yet made up his mind, declined to vote. Later on, however, he joined the minority and became one of my staunch supporters. The result of this meeting was in a measure disastrous to the position of the Government party, for although ^{they had carried their point} by means of what was nothing else but a packed meeting, considering that many of their supporters had left before hearing what the government motion was, and probably remaining for days in the interior of the country without knowing what they had voted for; yet the fact that practically three other medical men besides myself were in disagreement with them, exploded the legend about "the unanimity of the entire profession in Trinidad, except one", and broke the spell with which the Health Department had previously ^{him} ~~chained~~ the public. People began to think that perhaps I was not so lost to reason after all, and as if to make them realise the situation in a more practical way, Barbadoes promptly cabled that she had proclaimed quarantine against Trinidad. This was a ~~good~~ ^{it came to him that} signal for all the other islands to follow suit, and thus in spite of a good deal of **wavering**, and indecision, and half-hearted action on the part of the Health Authorities for several months, during which Trinidad freely infected the neighbouring colonies, the yellow flag was at length raised against her, and the people began to pay the penalty that was inevitable under such a lax and short-sighted sanitary administration. But curious

to

THE QUARANTINE QUESTION.

Pioneer March 14th 03

WE have unfortunately but little space to give to this most important question. Dr. Bridger has declared that small pox is epidemic in Trinidad and already the neighbouring islands are taking protective measures. The Medical Board have met and by an overwhelming majority have declared that the disease is not small pox. Whatever that may be, there is absolutely no danger. The mortality is nil, although there must have been up to now considerably over 800 cases in town. It is therefore far less fatal than measles or whooping cough. That a prosperous colony like Trinidad should allow itself to be quarantined and shut out from the world for such a benign disease is out of the question. It is the duty of the Government to protest against the quarantine and to immediately communicate with the Colonial Office, and if necessary ask for a commission of specially qualified medical experts to be sent out at once. Dr. Masson is the leader of the three advocates of small pox; he moved an amendment at the Medical Board to the effect that the disease should be recognised as small pox. We quite understand that Dr. Masson should be anxious to substantiate his first diagnosis, but if he succeeds he will hardly have earned the thanks of his fellow countrymen!

to relate it was not against the Health Department that the public dissatisfaction was felt. According to their way of reasoning, that body had done its best to prevent the colony from being quarantined, and, if anything, deserved their thanks. That its doing so involved the spread of infection throughout the West Indies was a mere matter of detail. I on the ~~to~~ other hand had done all I could to get the true character of the disease recognized, hence I was a person to be execrated. "It is the duty of the Government to protect against the quarantine" wrote one of the Editors in a leader on "The Quarantine question", and to immediately communicate with the Colonial Office -- and, if necessary, ask for a commission of specially qualified medical experts to be sent out at once. Dr Masson is the leader of the three advocates of smallpox; he moved an amendment at the Medical Board to the effect that the disease should be recognized as smallpox. We quite understand that Dr Masson should be anxious to substantiate his first diagnosis, but if he succeeds he will hardly have earned the thanks of his fellow countrymen." Notwithstanding the great moral support which the Health Department received from the continued sympathy of the public, after the proclamation of quarantine against the colony throughout the West Indies, there can be no doubt that the officials had now been aroused to a greater sense of their responsibility and they were ready to do everything in their power, save calling it smallpox, to check the spread of the disease, more particularly

THE BOARD OF HEALTH.

THE KIND OF WATER WE ARE DRINKING.

min April 8 1903
DR. LAURENCE DETERMINES A CASE
OF SMALL-POX.

THERE was a meeting of the Board of Health yesterday afternoon in the Surgeon-General's Office, and at which were present: the Hon. Dr. J. A. de Wolf (Surgeon-General), in the Chair, Doctors Prada, Alston, Laurence, Knaggs and Eakin, Professor Carmody, Mr. A. D. P. Owen and Mr. H. W. Brathwaite (Secretary).

Dr. Laurence then put the following questions, of which he had given notice to the Secretary, to the Surgeon-General:—

1. How many cases reported to date?
2. How many cases reported in March?
3. Number of deaths.
4. The extent to which country districts have been affected.
5. The incidence of the disease.
 - (a.) Among vaccinated generally.
 - (b.) Among recently vaccinated.
 - (c.) Among unvaccinated.
6. Effect of vaccination.
 - (a.) In preventing the disease.
 - (b.) In modifying it.
 - (c.) On convalescents.
7. No. persons vaccinated spec as a preventive measure against disease.
8. Are cases of this disease treated at the Pauper Relief Stations in Port-of-Spain along with ordinary sick persons or separately?

The Surgeon-General said it was his intention before these questions had been submitted to him to make some statement in regard to the present epidemic. He had to say then, as he had said before, he did not think that Board was the place to enter upon a discussion of such a technical character as was involved in this question—the five forms of distinction in this disease. He, therefore, thought the information which would be given there should be of a nature to benefit the public—information of a general character. The form in which the questions had now been put was a most convenient one, and he should answer them in detail according to such details as he had been supplied with. The Surgeon-General then pointed out from his papers that up to the day before there had been (counting from the commencement of the outbreak) 1,804

cases, and out of these only 8 deaths had occurred, and those comprised individuals either adults or children who were in an enfeebled condition; one man died the day after his arrival from Venezuela. In the country districts there had been 116 cases, and no reported deaths. Regarding the incidence of the disease, the Surgeon-General said that out of 1,125 cases 813 had been unvaccinated and 312 had been vaccinated at various ages and at various periods. Generally speaking, the medical officers who had been specially detailed to look after this matter had given it as their opinion that vaccination had decidedly had an improving effect upon the disease. The Surgeon-General then went into some other matters of a technical character.

Considerable discussion took place as to the effect and non-effect of vaccination upon the disease.

Dr. Laurence then announced that at the outbreak of this epidemic he had been one of those who held that it was not small-pox, and such cases as had come under his notice he was sure did not come under that category, but within the past day or two he had seen a case which was undoubtedly one of small-pox, and in that diagnosis he had had the concurrence of opinion of Dr. Lota. He advised isolation of such cases.

After some discussion, Dr. Laurence moved the following resolution:—

“That in the light of the information before the Board respecting the current epidemic of eruptive fever, the Board is of opinion that Ordinance 11 of 1893 should be proclaimed by the Executive to meet any emergency.”

There was no seconder, and Dr. Prada moved as an amendment the following:—

“That in view of the spread of the prevailing disease, the Governor be advised to proclaim Ordinance No. 11 of 1893.”

Unanimously carried.

On the motion of Professor Carmody, seconded by Dr. Knaggs, a resolution was adopted—

“That circulars be issued to the public by the General Board of Health recommending that such steps be taken by them as may be thought advisable for preventing the spread of the disease.”

Upon the motion of Dr. Knaggs, a committee comprising the Surgeon-General, Professor Carmody and himself was appointed to prepare the circular.

There being no further business, Board separated.

particularly as the cases came pouring in at an appalling rate, and filling up their temporary hospitals one after the other as fast as they erected them. At the meeting of the Board of Health which took place on March 3rd the number of cases reported was stated to be roughly 400. A month later at the next regular meeting of the Board the Surgeon General stated that the number had risen to 1804, being an increase of 1400 cases between March 3rd and April 7th. But that was not all, eight deaths had been recorded! That, of course, under ordinary circumstances would have been a very insignificant mortality rate, "less than $\frac{1}{2}\%$ " said one of the members who, now, that there was no need to represent the disease as "not spreading", but every reason that the death rate should be viewed in microscopic proportions, volunteered the opinion that the actual number of cases to date must have been fully 2000, since many were not reported. The real importance of the eight deaths was that it showed that the "simple cutaneous eruption" was sometimes attended with fatal results. On this occasion again, as at the March meeting the Chairman attempted to make capital of the fact that of those who died one was "prematurely born infant" and another "was a Venezuelan who landed here one afternoon after exposure in the gulf, and died the next afternoon". However much the medical officials solaced themselves with that consideration, the facts remained that their "absence of mortality" defence was another outer-work which they were now compelled to abandon while holding their main position. By this time

time also the disease had spread to several country districts from which 678 cases were reported. As the Surgeon General is also Medical Officer of Health for the whole colony, his responsibilities were considerably increased by the disquieting reports sent in ^{by} the District Medical officers. More important however than anything yet stated, was the admission by the Surgeon General of the influence of vaccination upon the disease. "Amongst the vaccinated" he said at a meeting of the Board of Health "the general results were out of 1125 persons, 312 were vaccinated at different ages, and 813 were amongst the unvaccinated. Generally speaking the medical officers who had been specially engaged in conducting these investigations were of opinion that recent vaccination had a decided effect in improving the disease, but 22 cases were marked cases to the contrary". A very halting and half-hearted admission it will be observed, but none the less an admission "for a' that" of the influence of recent vaccination in warding off attack by the disease. The effect of this acknowledgment even late in the day came as it came, on the subsequent control of the epidemic cannot be overstated. The Surgeon General as it would appear was entirely in the hands of his subordinates, and I ^{do} ~~did~~ not propose to question his bonafides, but considering that according to the official reports published from his own department 119 cases were notified to the 30th January, and 400 cases February, this conclusion when the number of cases had

had totalled 2000, was only arrived at after gross and unpardonable delay on the part of the responsible officers, a circumstance rendered all the more serious when one considers how important it was from the standpoint of prophylaxis that the influence of vaccination upon the disease should have been determined as early as possible. This judgment was subsequently borne out by the rapid decrease in the case rate which took place when vaccination began to be practised on a large scale as a result of an announcement from the Health department that it was an effective measure of prevention. Not only, therefore, were the Health officers, in my opinion directly responsible for much of the misery and suffering associated with the disease, and the economic evils which resulted from a prolonged period quarantine extending over twelve months, but they fully justified the statement in my report of the 17th December to the effect that "Reviewing all the circumstances of the case there can be no doubt that the Medical Authorities failed to realize the grave danger which I pointed out, and in deciding not to isolate the Duncan street cases of smallpox they seriously jeopardised the Public Health and lightly undertook a terrible responsibility which no economic side issues could possibly justify".

But with all ^{that} the official cup of bitterness was not yet emptied, for towards the close of the meeting still under ^{consideration,} Dr Lawrence, one of the unofficial members of the Board, reported that he had come across a case

which

which he considered to be one of true smallpox."He had publicly stated his belief" he said, "that the disease was not smallpox, but ~~that~~ he had seen a case that morning which presented appearances identical with smallpox. He did not want to oppose the current opinion but his latest views of the case was that he should withdraw his first opinion".

The Chairman: You base the argument on one case.

Dr Lawrence: I have seen more than one case of the same kind.

The Chairman: I have seen the case Dr Lawrence referred to, and the man was cheerful and bright with no signs of depression about him at all.

Unfortunately for the Surgeon General's argument the man's cheerfulness and brightness were a delusion and a snare if it was concluded therefrom that he was *not* seriously ill, for he died a few days later, and his death aroused a considerable amount of public interest for he was a white man, well known in the community, and in easy circumstances, while hitherto it had been adduced as a proof against the theory of smallpox that the disease only attacked the native population, and of those, only such as lived in squalid and otherwise unfavourable surroundings. Such then was the condition of affairs at the time of the Board's meeting of the 8th April. With the officials compromised to the extent of acknowledging

acknowledging the protective influence of vaccination against the disease; with their "no mortality" argument bereft of force by the records in the office of the Registrar showing a commencing death rate, principally among "premature infants" and "old men", it is true, but still a death rate;—with all this added to the fact that a member of the Board of Health itself had not only certified a case as small-pox, but declared that he had seen many similar ones, it would be supposed that a sufficiently strong case had been made out against the chicken-pox theory to convince the Health Authorities of the error of their views, and that the time had come when those views, hotly as they had been contested, could be frankly abandoned; but they showed no inclination to adopt this course, and though fully convinced that the measures necessary to control the disease were the same as those usually required in dealing with small-pox, namely, vaccination, re-vaccination, isolation and disinfection, their first apparent care was to "save their face" from what was probably considered the indignity of climbing down. The dilemma in which they now found themselves was quite evident, for to withhold the necessary precautions any longer would have been to -----

write

write themselves down as being guilty of something in the nature of malice towards the public, so they distributed broadcast a number of hand-bills in which useful information to prevent the spread of smallpox was detailed, but in which that word was conspicuously absent, the disease being referred to as the "Pox" or "The prevailing epidemic". A specimen of those "slim" bills is appended herewith for further information. Not wishing, however, to bear entirely on their own shoulders the responsibility for their half-hearted production, before publicly distributing the leaflets they sent a copy to every medical practitioner in the town with a covering letter as follows:-

Surgeon General's Office.

28th April, 1904.

The Prevailing Epidemic

I beg to forward the enclosed handbill of advice to the public with regard to the prevailing epidemic of "Pox" for your information.

Should it meet with your approval I shall be glad if you would append your signature as an endorsement.

I have the honour to be,

Sir,

Your Obedient Servant,

(sd) J.A. de Wolf.

Surgeon General.

Although

Although its lack of coherence was manifest to all, yet this leaflet was endorsed by many un^wary practitioners, including, I am sorry to say, one of my supporters who urged me to sign on the ground that "Well, you see, they might think us disagreeable if we don't". My friend, however, was very much mortified ~~to~~ later on when he found out that what was submitted to us was only a proof sheet, and that the copies subsequently issued to the public through identical in the text, were fortified with a footnote to the effect that "the above recommendations have been submitted to the medical practitioners and have been generally approved of by them". In this instance I again found myself in the minority, for not knowing any disease except smallpox which required vaccination, revaccination, disinfection and isolation to check its spread, I had a "conscientious objection" to endorsing similar recommendations for an ill-defined pox the nature of which was, to all appearances, affected not to be understood by the persons who drafted the recommendations. "Tardy precautions" was the heading of a leader in one of the local papers when it became known that the Health Department was about to issue directions for the guidance of the public. "Tardy precautions" wrote the editor, "in fact very much like the policy of closing the stable door after the mare has been stolen". Several years ago some cases of fever broke out in the town and were certified by a young medical graduate then fresh from Edinburgh University as yellow fever. The reports got into the papers and the Government of some of

of the other colonies cabled to Trinidad to find out whether there was any truth in the press reports, with a view to their proclaiming quarantine if necessary. A meeting of the Medical Board was promptly held in order to decide the point and furnish the Government with a reply to the urgent enquiries. After a solemn debate in which every feature of the disease was carefully considered a verdict was arrived at as follows:- "Not yellow fever, but indistinguishable from the same!" Well might they on this occasion have declared the eruptive fever to be "not smallpox but indistinguishable from smallpox". It happened however that they did not require to use this weak precedent, for one of their District Medical Officers who had been on the alert, in the nick of time unearthed a paper entitled "Varioloid Varicella" by Dr Izett Anderson, published in the proceedings of the Epidemiological Society of London, for 1867. In that paper was described an epidemic of an eruptive disease which occurred in Jamaica in 1863, and which according to Dr Anderson "presented the general features of varicella, though in some cases it was apt to be regarded as variola by inexperienced persons. It attacked young and old, and spared neither the vaccinated nor the unvaccinated; the invasion period which lasted two days was marked by the presence of malaise and fever, the latter not being of any intensity. A papular rash made its appearance on the third day on the face especially in the severe cases; this was transformed

within

within twenty four to forty hours into umbilicated vesicles which at this stage either aborted as in the mild cases or became pustular, attaining their fullest development on the fifth or sixth day of the eruption when desquamation began. In the majority of cases there was an absence of constitutional disturbance and the patients were not confined to their beds. Secondary fever or anything approaching to it was hardly ever present. In some instances macules and pitting followed desquamation. The epidemic lasted for four or five months and was apparently not attended by any mortality". Such in brief is a summary of the salient features of the epidemic as described by Dr Anderson, and save for the ^{difference} ~~ambiguity~~ regarding ^{the} ~~the~~ ^c ~~protection~~ afforded by vaccination, the description given does not read very much unlike what would hold good for some of the milder cases of the epidemic under review. As against Dr Anderson's views however it may be well to state that a certain Dr Bowerbank then practising in Kingston, wrote as follows in a memorandum on the disease "To me it (the disease) looks much more like "varioid" or modified smallpox. Most of the vesicles suppurate and in some instances are distinctly umbilicated and are sometimes confluent. I never saw varicella like this before." But the name "Varioid Varicella" given to it by Dr Anderson was just the very thing which suited the Health Authorities, in the difficulty in which they had placed themselves. The "varioid" in it was calculated to overcome the fastidiousness of those who could not swallow the idea of vaccination as a preventive

preventive against chickenpox; and the "varicella" remained to emphasize the fact that while the disease had a touch of something "varioid" - something in the nature of smallpox, about it, yet it was essentially the simple cutaneous eruption, commonly known as glasspox. Accordingly at the next meeting of the Board of Health the disease was officially proclaimed as "Epidemic Varioid Varicella". Of course the Surgeon General knew that medical men would at once remark that if Dr ~~Izett~~ Anderson's description of the Jamaica epidemic was to be taken as correct, the disease could not possibly be the same as that which existed here, since in Jamaica it attacked vaccinated and unvaccinated alike, while in Trinidad after careful investigations, certainly not biassed in the direction of securing positive results, the Health Department had declared that vaccination was an efficient protection. If, on the other hand, Dr Anderson was mistaken with regard to the influence of vaccination, then Dr Bowerbank was right and the epidemic of 1863 and the epidemic under discussion were of the same nature, namely variola, from which it would follow that the term "varicella" however qualified, was misapplied in regard to the disease in the first instance, and could not on any scientific grounds be adopted afresh by the distracted medical officers to suit the exigencies of their awkward situation. But it must be borne in mind that in handling such matters the opinion of the medical profession was entirely set at nought by the Surgeon General. His remarks were not addressed to them but was intended

intended for the satisfaction of the profane and uninitiated. This he made clear from the Chair at the April meeting of the Board of Health when he said that "he did not think this Board was the place to enter into a discussion on the diagnosis of the disease. "The information he gave there should be for the information of the public and of a general character". From that time onwards the disease became known as "Varioloid Varicella". The name was taken up and ridiculed by very nearly the entire West Indian press in which the term "Varicella officialis" was suggested as a more appropriate alternative. However much the Medical officials congratulated themselves on the dignified manner in which they had abandoned their untenable position their retreat from the glasspox theory, though accomplished under cover of the "varioloid" catchword, was tantamount to a ~~we~~ victory for my party, and very little was now wanting to complete their rout. That this event was not to be long delayed became apparent when it was announced that in consequence of certain representations made to the Colonial Office by the Government of Barbadoes instructions had been issued to Sir Patrick Manson to come to an understanding with the Medical Department of Trinidad for the purpose of getting reliable information on which the true nature of the disease could be decided. Accordingly Sir Patrick proposed that in addition to furnishing a clinical report with photographs, charts and so forth the Health Authorities should carry out certain tests principally in relation to vaccination

and

Board of Health Proceedings
June, 1903. (abstract)

Board of Health
P.O. Gazette June 3/1903

The monthly meeting of the Board of Health was held at the Surgeon-General's Office yesterday afternoon. Dr. de Wolf, (Surgeon General) presided, and the members present were, Professor Carmody, Dr. Prada, Dr. Dickson, Dr. Eakin, Dr. Read, and Mr. H. W. Brathwaite (Secretary).

MORTALITY.

The usual monthly returns were read. During April there were 172 deaths in Port-of-Spain, equivalent to 37.45 per thousand of the population. There was no malarial but four deaths from typhoid fever, three deaths from varioloid varicella and one death from small-pox.

On the motion of Professor Carmody, it was agreed that the Assistant Medical Officer, (Dr. Dickson), should prepare a report on the high rate of mortality among children under one year of age. The opinion was expressed that arrowroot and other heavier diet than milk or flour pap was the probable cause of much indigestion and also diarrhoea.

THE POX.

It was stated that in the first week of May there were 348 cases of the prevailing pox reported in Port-of-Spain. The number was reduced to 180 in the last week of May. The total number of cases reported was 4,038 to May 30, and the total number of deaths had been 17. During the month of May there were 6 deaths from the pox. The death rate was under $\frac{1}{2}$ per cent. The disinfection of premises was reported in three cases. The only apparent increase of the disease was in some of the country districts, such as Tunapuna, where a great many cases had lately been discovered.

The Chairman read statistics of vaccination, showing that many of those who were vaccinated immediately or very soon after recovery from the disease, failed to "take," but there had been eleven cases of entirely successful vaccination, and 20 or more others gave partial re-action. Some of the authorities had been consulted and they thought that where vaccination failed it would show that this disease was smallpox, but as a matter of fact there was evidence on both sides. A number of vaccinations had failed, but a number of others had "taken," so that the experiment still left the question open to doubt as to the true nature of the disease. The observations requested by the Secretary of State were being continued. A number of persons who suffered from this disease had previously suffered from undoubted smallpox.

Dr. Read said that the photographs taken at a certain stage of the disease would lead anyone to believe that it was real smallpox.

SANITARY MATTERS.

and submit the results to him. This having been agreed upon the work was put in hand, and was, as usual, slowly proceeded with, no information as to the results being forthcoming until the June meeting of the Board of Health when the Surgeon General read statistics of vaccination showing that many of those who were vaccinated immediately or very soon after recovery from the disease failed to "take", but there had been eleven cases of entirely successful vaccination, and twenty or more others gave partial re-action. "Some of the authorities" he went on to say "have been consulted and they thought that where vaccination failed it would show that the disease was smallpox, but as a matter of fact there was ~~no~~ evidence on both sides. A number of vaccinations had failed, but a number of others had "taken" so that the experiment still left the question open to doubt as to the true nature of the ~~disea~~ disease. The observations requested by the Secretary of State were being continued". Whereupon Dr Read, an official member said "The photographs taken at a certain stage of the disease would lead anyone to believe that it was real smallpox." This admission was merely a sign of coming events, and greatly encouraged the "minority" which, by the way, was no longer the lonely one that it had been at the beginning of the controversy, but was gradually, by the influx of an increasing number of converts, assuming the proportions, if not ^{of} a majority, but, at any rate, of a very respectable opposition. As if too add to the difficulty^{ies} of their situation Dr Rodriguez, one of

of the private medical practitioners who had thrown in his lot with the Government party, possibly in compliance with ~~the~~ a suggestion which appeared in one of the newspapers that "some medical man should rise and demolish the Barbadian Commissioner's report as a whole," undertook the publication of several columns of "Observations on Dr Bridger's report" in one of the local dailies. In this interesting specimen of ~~de~~structive criticism Dr Rodriguez not only outdid the medical officials in his denial of the accuracy of Dr almost every statement in Dr Bridger's report which told in favour of the small-pox theory, but in his anxiety to be of use to his party he suggested that the Authorities had gone too far in qualifying the previously adopted name of varicella with the suggestive epithet "Varioloid"; in fact he declared the new compound name to be altogether, incorrect much to the consternation of his allies and of the now diminishing section of the public who was still ready to pin their faith to official pronouncements on the subject. These "observations" apart from causing some inconvenience to those personally concerned, made no impression on the profession at large and I merely propose to quote two of the most interesting sections, namely the introduction and conclusion:-

Introduction. "Although it is not generally considered right to discuss medical questions in the lay press, yet the matter is of such urgent importance to the Colony that I hope to be forgiven for making public the reasons which lead me to believe that Dr Bridger has erred in his diagnosis

of the cases of fever now existant in Trinidad. I shall not begin as Dr Bridger does by curtly dismissing the possibility of the disease being a disease sui generis.

but propose to postpone the whole question of a diagnosis until I have considered the body of the report and in doing so I propose following his divisions into headings.....

Conclusion. Is this disease chickenpox, or is it a hitherto unnamed and undescribed specific entity? Although the latter is possible, yet the disease especially in the early vesiculation of the papules, and during the whole vesicular stage bears such a close resemblance to chickenpox that I am inclined to believe it is; though a very severe and unusual form of chickenpox, it is still chickenpox. I cannot conclude without referring to the name which it has officially received here. To call it "Varioloid Varicella" is altogether incorrect; there is nothing variolous in its nature. If a name is required for it, one more in accordance with its character or appearance should be sought, and in my opinion either of the two following names which have suggested would be better. These are Varicella Pemphigoides on account of the close resemblance which the pustules bear to the blebs of Pemphigus, and Varicella Pustulans" By publishing his views Dr Rodriguez instead of affording the assistance he intended, became a source of weakness to the official party who promptly disclaimed all responsibility

Board of Health.

P.O. Gazette July 4th 1903

FOLLOWING is the agenda of a regular meeting of the General Board of Health to be held at 2 p.m. on Tuesday next:—

1. Usual monthly and quarterly reports from sanitary Inspectors, and the assistant Medical Officer of health.
2. Drainage and disposal of excreta in Port-of-Spain. Report of Committee.
3. Special report on cases of typhoid fever by the assistant Medical Officer of health.
4. Typhoid fever—notification of—as an infectious disease under Ordinance 11 of 1893.
5. Special report on the water supply of Port-of-Spain by the Government Analyst.
6. Letter from Dr. Masson on the prevailing epidemic.
7. Despatches from the Secretary of State accompanying papers relative to the scientific investigations of cancer and malignant disease.

responsibility for the production, although free access had been allowed the author to the patients in hospital in order to afford him every opportunity of maturing opinions which it is fair to assume were expected to be favourable to the official version. Referring back to the experiments in which the Medical Departments were supposed to be engaged, very little beyond what was reported at the June meeting of the Board was heard of ~~was taken place~~ until the 4th. of July when "The consideration of a letter from Dr. Manson on the prevailing epidemic" was announced on the agenda of the next regular meeting of the Board of Health. It so happened that by a slight typographical error, which however made all the difference in the world, Dr Masson was printed instead of "Dr Manson", and I had to reply to many enquiries regarding the nature of my (?) communication. The curiosity of those who like myself were naturally anxious to hear what Sir Patrick Manson had to say on the subject was sadly disappointed when on the day of the meeting the Surgeon General referring to the matter ^{said} that the notice with regard to Dr Manson letter had been placed on the agenda by mistake "There was some correspondence", he went on to say, "with Sir Patrick, but he did not think it would be desirable to read it until it was completed". In spite of this reticence a rumour somewhat got abroad that Sir Patrick Manson's decision had been unfavourable to the contention of the Health Authorities, but no official information was forthcoming and we had to possess our souls in patience until the

Board of Health Proceedings
August, 1903. (abstract)

MINUTE Aug. 12. 03
GENERAL BOARD OF HEALTH.

THERE was an adjourned meeting of the General Board of Health, held in the Surgeon-General's office yesterday afternoon, at which were present: the Hon. Dr. J. A. de Wolf (Surgeon-General), in the chair, ~~Doctors R. H. E. Knaggs, Prada, Laurence and Reid~~, with Mr. H. W. Brathwaite, Secretary. Professor Carmody entered the room and took his seat at a late stage of the proceedings.

The Surgeon-General read a letter he had received from Dr. Laurence, asking that Dr. Manson's report to the Colonial Office, of which he is the medical adviser, on the prevailing epidemic be laid before the Board. The Surgeon-General, after reading the letter, went on to say that he could not produce the correspondence on this matter. He had read it and had forwarded his report upon it to the Government. But he would say this, that Dr. Manson considered that the disease was small-pox, basing his conclusion upon the circumstance that six consecutive cases of

persons who had just recovered from the pox were vaccinated and they all failed to "take." He Dr deWolf had since reported that sixteen cases had taken who were vaccinated immediately after, and that twelve cases of a second attack were reported with periods varying from one to two months. Another thing was the excessively low mortality up to the present time, not only in Trinidad where the population was vaccinated but in the unvaccinated population of Venezuela.

Dr. Lawrence said he had found it very difficult to get any information on the subject as a member of the Board.

The Chairman said it must be remembered that this was a mixed Board and not a medical association.

After some further discussion the Board rose.

August meeting of the Board when in reply to the request of one of the unofficial members that the correspondence with Dr Manson be laid on the table, the Surgeon General said that "He could not produce the correspondence. He had made a report, and Dr Manson on the strength of the information before him was of opinion that the disease was smallpox. Dr Manson had based his opinion on the fact that six persons who had just recovered from the pox were vaccinated and failed to take". He (the Surgeon General) had since reported that sixteen cases had taken who were vaccinated immediately after, and that twelve cases of a second attack were reported within periods varying from one to two months. Another thing was the excessively low mortality up to the present time not only in Trinidad where the population was vaccinated, but in the unvaccinated population of Venezuela". Protesting against the failure of his efforts to get at the correspondence, Dr Lawrence ^{remarked} that "He found it very difficult to get any information on the subject as a member of the Board". To which the Surgeon General retorted that "It must be remembered that the Board was a mixed one and not a Medical Association !" By this time it was clear to everybody that the Government party hadn't got a leg to stand on. Already the controversy had attracted the attention of the Medical press in the United Kingdom, and several articles adverse to the views of the official party appeared in the "Lancet" and the British Medical Journal. First among these was one in the "Lancet" of April 18th, 1903 entitled

entitled "Smallpox in the West Indies". Next followed another on May 2nd, 1903, under the heading of "The Varioloid Epidemic in the West Indies". On June 20th a fresh article appeared entitled "The Trinidad Epidemic." In the British Medical Journal the principal article on the subject was published on May 25th, 1903, under the title of "Smallpox in Trinidad". In each case the Health authorities declared that they were the better judges, and that no reliance could be placed on judgments arrived at from data which may or may not have been correct. Now, matters were changed: the referee was the Colonial Office expert, the data were supplied by the Medical Department itself which, most important of all, carried out the mutually arranged vaccination tests. Nothing could have been more satisfactory from their point of view. They were allowed full scope to carry out their experiments and to say all they ~~g~~ had to say in support of their contention; and yet having failed on the strength of evidence supplied exclusively by themselves to obtain a favourable verdict, instead of accepting the inevitable after having done their best according to their lights, they immediately proceeded to declare that luck was against them. They groaned that while the specifically conducted experiments proved unfavourable to their contention, they had had no difficulty in successfully vaccinating convalescents from the disease when, later on, they tried their hands, presumably "just for fun", on a fresh set of cases. And not only that, but finding that the sad tale of their ill-

luck only provoked an amused smile wherever it was re-
 cited, they stooped to finding fault with the judge who
 had decided against them. It is not inconceivable that
 just as they had lauded to the mountains the little tin
 experts who had supported them in their views, so would *they*
 have glorified Sir Patrick Manson to the skies if his
 judgment had been in their favour. But under the cir-
 cumstances they began to depreciate his qualification
 to decide the disputed point, and they wanted to know
 by what right he claimed to pose as a smallpox expert.
 In fact, so far as they could see, the main point of
 distinction between Sir Patrick and me in that respect
 was in the third letter of our respective ^{sur}names. All
 this, however, merely served to emphasize the utter hope-
 lessness of their position, and even those who had ~~been~~
 previously been their warm supporters, on looking back
 to the past, were now affronted at the great lack of
 frankness with which the question had been handled by
 them from the beginning. Curiously enough my relations
 with the Surgeon General were now vastly improved. We
 were both invited by the Governor to join ϕ a Select
 Committee of the Legislative Council appointed at the
 instance of the Secretary of State for the Colonies to
 revise the contentious Water-works bill which had caused
 the Riot in Port of Spain, determined the recall of Sir
 Courtenay Knollys, and, unfortunately, wrecked the ca-
 reer of Sir Alfred Moloney himself. We sometimes dis-
 cussed the still vexed question, and though the Surgeon
 General continued to uphold his originally expressed
 opinion,

opinion, it was never difficult to perceive that policy, official policy, was a greater barrier between our views than the clinical facts which had been observed and appreciated --- perhaps tardily in his case, owing to the blurring effects of sidelights ^{peculiar} ~~precaution~~ to the situation ---- but still appreciated by him and I alike. And now there were many signs that the Health Authorities were losing courage: deserted by some of their staunchest supporters, embarrassed by dissensions in their own camp, compromised by the unfavourable judgment of the medical adviser to the Colonial Office, and baffled by the relentless logic of clinical facts which they could no longer successfully disguise from the public so dear to their hearts, and whom they had so strenuously endeavoured to carry with them in the controversy; it was almost with the recklessness of despair that they made their final sortie. This movement was accomplished under the leadership of two of their best officers, in fact the only two in the service who had had special training in Public Health and, to complete the military metaphor, bore the distinction of D.P.H., the one of the London Colleges and the other of Oxford University. Their supreme attack on the positions which had already been carried by the minority took the form of the jointly constructed paper already quoted and entitled "Varicellous Varicella in Trinidad: Observations on its Nature, ~~and~~ Origin, and Mode of Spread, based on the observation of 4029 cases".

This composition was not without a certain amount of

assurance sent to England as a contribution to the Public Health section of the Autumn meeting of the British Medical Association held at Swansea last year. Subsequently, as I have stated, it was published locally in the Royal Gazette as an annexure to the annual report of the Surgeon General. It is not on record whether the paper was written to order or whether it was a spontaneous ~~production~~

production

production, and it is difficult to conjecture what exactly the authors expected to result from its publication, but certainly no doubt was left in the minds of those who had the privilege of reading it locally as to the kind of reception it would get from impartial critics at home when it was observed, that possibly as a result of the influence of their early impressions, the authors had committed ~~blunder~~—the curious blunder of drawing a clinical picture of varicella in the body of their paper, but in the end recommending vaccination, revaccination and isolation as the measures which experience had shown to be most useful in dealing with the disease. In point of time the imagination of those who dwelt upon the subject was not given much scope, for within a few days after the publication of the paper in the British Medical Journal, Dr R.W. Marsden, the Medical Superintendent of the Manchester fever hospitals, wrote a letter dated September 30th which was published in the same Journal on October 17th, 1903, adversely criticising the production and completely pulverising the two unfortunate officers. After reciting the gist of the paper which he described as being "most unfortunate" in its present form, and strongly condemning the term "Varioloid Varicella," Dr Marsden sums up as follows:— "From the evidence then which we possess it seems perfectly clear that the epidemic was one of varicella, and one must account for the particulars showing its relationship or rather want of relationship to vaccination by the wide spread opinion which seems to have existed that the disease

"disease was really variola. From the title of the communication one is bound to assume that the contributors did not hold this opinion, and one is ~~therefore~~ therefore at a loss to understand their recommendation of vaccination, revaccination, and isolation" as the measures most useful in dealing with the disease. It seems to be distinctly regrettable that Drs Dickson and Lassalle had not the courage to take a more definite stand. On the contrary in the final paragraph under "General Remarks" they apparently stultify their communication by the statement "that in some respects it is analogous to the epidemic in America of what has been termed irregular ~~or~~ atypical smallpox". The only conclusion which I have been able to come to after perusing the article is that the contributors have very hazy ideas of the relationship or the reverse of smallpox, vaccination, and varicella, and that the result of their experience has been to complicate and obfuscate a clear "issue". And as if that were not enough Dr Marsden concluded with a coup de grace. "I cannot help feeling that with so indecisive a contribution in our own time containing apparently ^s much marked contradictions, it is not to be wondered at that the literature of smallpox is hampered by amazing discrepancies". This letter was reproduced locally in the very papers which had so boldly supported the authorities, but which had now lost heart, and the controversy died a natural death with its publication. The disease still continued to be officially referred to as Varioloid Varicella, but the name degen-

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degenerated like the sea serpent into something which people joked about, but in the reality of which they did not believe.

Finis:

I hereby declare that the
foregoing thesis is entirely
of my own composition.

George H. Nasson,
M. D., B. Sc., Public Health.

Signed at Port of Spain,
Trinidad, this 9th day
of December, 1905.